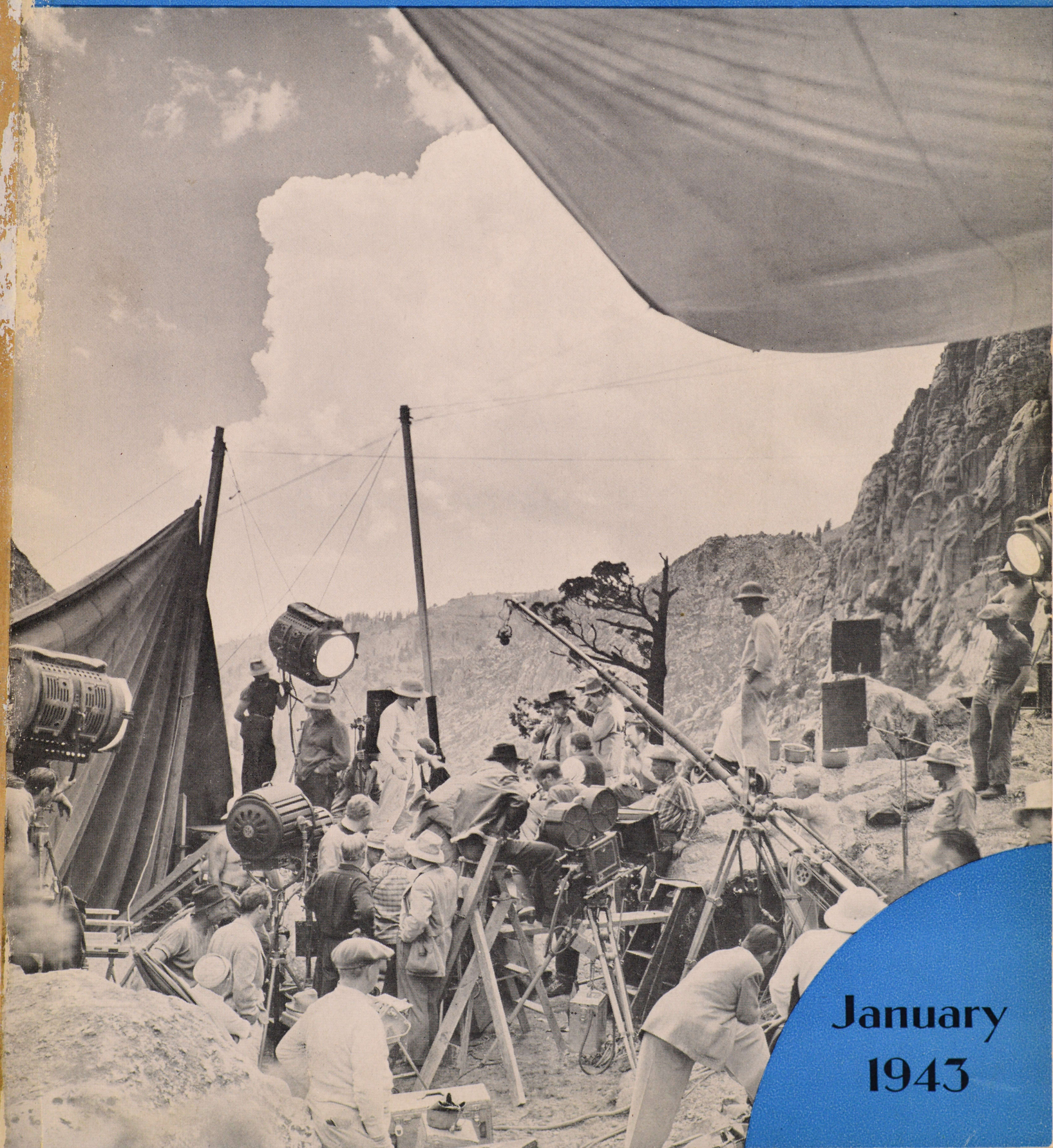


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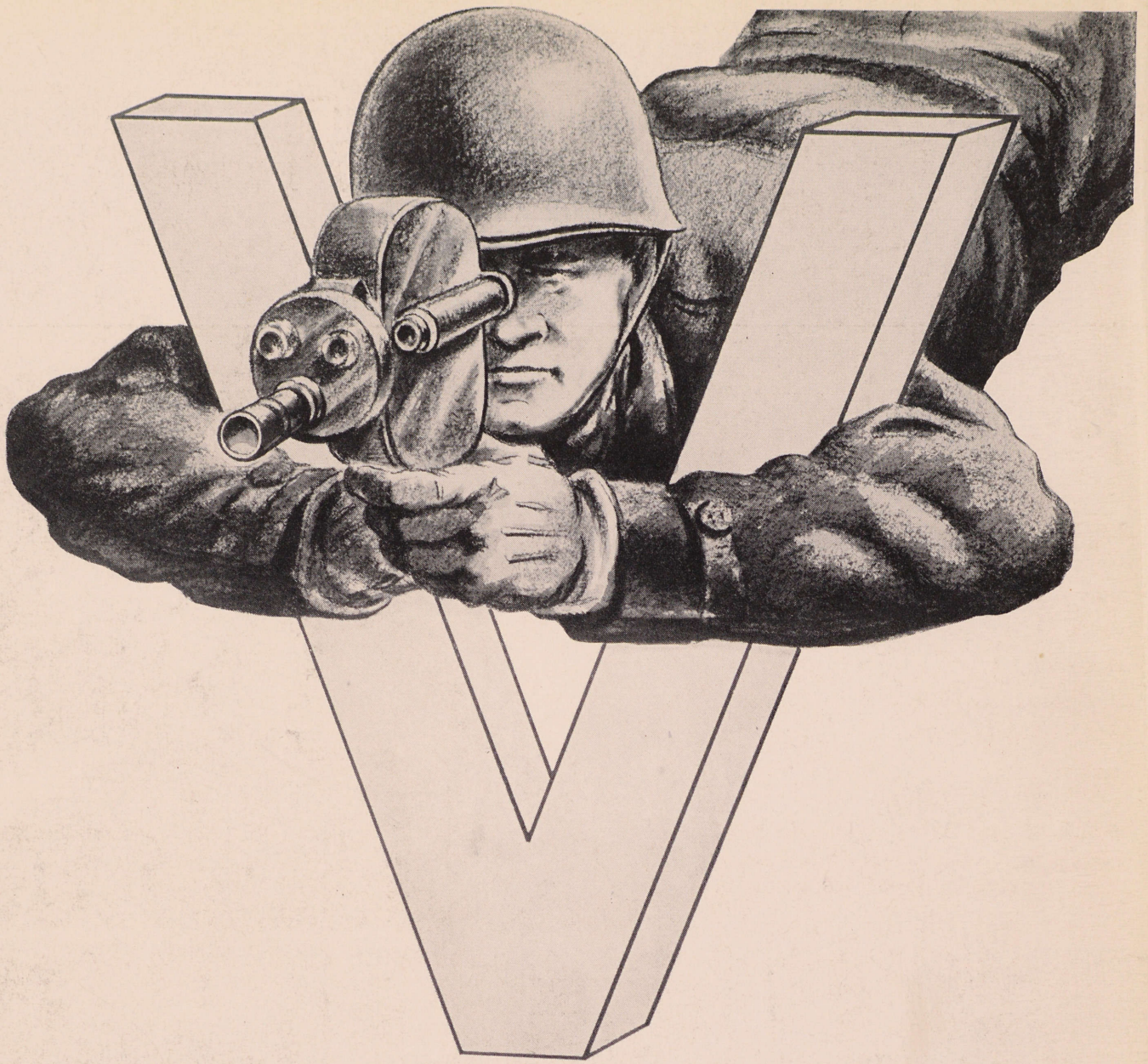
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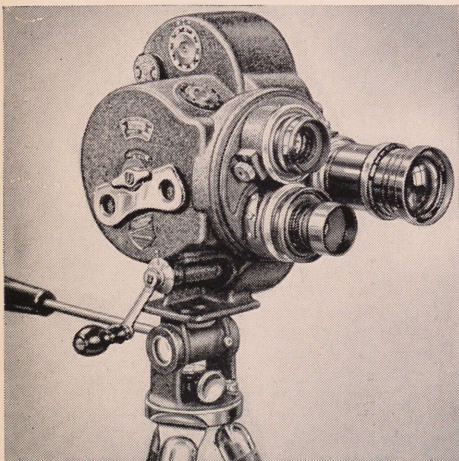
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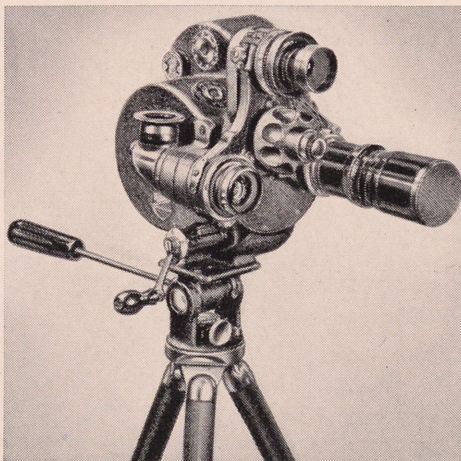
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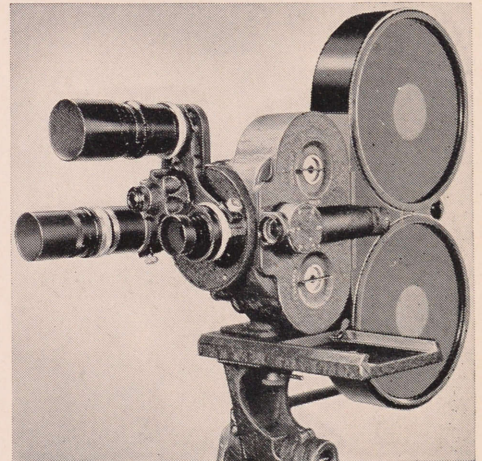
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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 24

JANUARY, 1943

NO. 1

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McGill's, 179 Elizabeth Street, Melbourne,
Australian and New Zealand Agents

Published monthly by A. S. C. Agency, Inc.
Editorial and business offices:

1782 North Orange Drive
Hollywood (Los Angeles), California
Telephone: GRanite 2135

Established 1920. Advertising rates on application. Subscriptions: United States and Pan-American Union, \$2.50 per year; Canada, \$2.75 per year; Foreign, \$3.50. Single copies, 25c; back numbers, 30c; foreign, single copies 35c, back numbers 40c. Copyright 1943 by A. S. C. Agency, Inc.

Entered as second-class matter Nov. 18, 1937, at the postoffice at Los Angeles, California, under the act of March 3, 1879.



The Front Cover

This month's cover shows Ray Rennahan, A.S.C., (in checkered sweater to left of camera) Technicoloring a scene for Paramount's "For Whom the Bells Toll" on location in the High Sierras. Note use of both arc and incandescent "booster" lights, and overhead scrim. Still by Bob Coburn.

"PROFESSIONAL JR."

TRIPOD

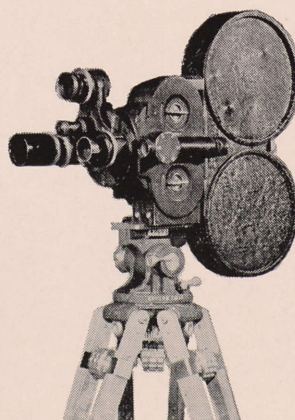
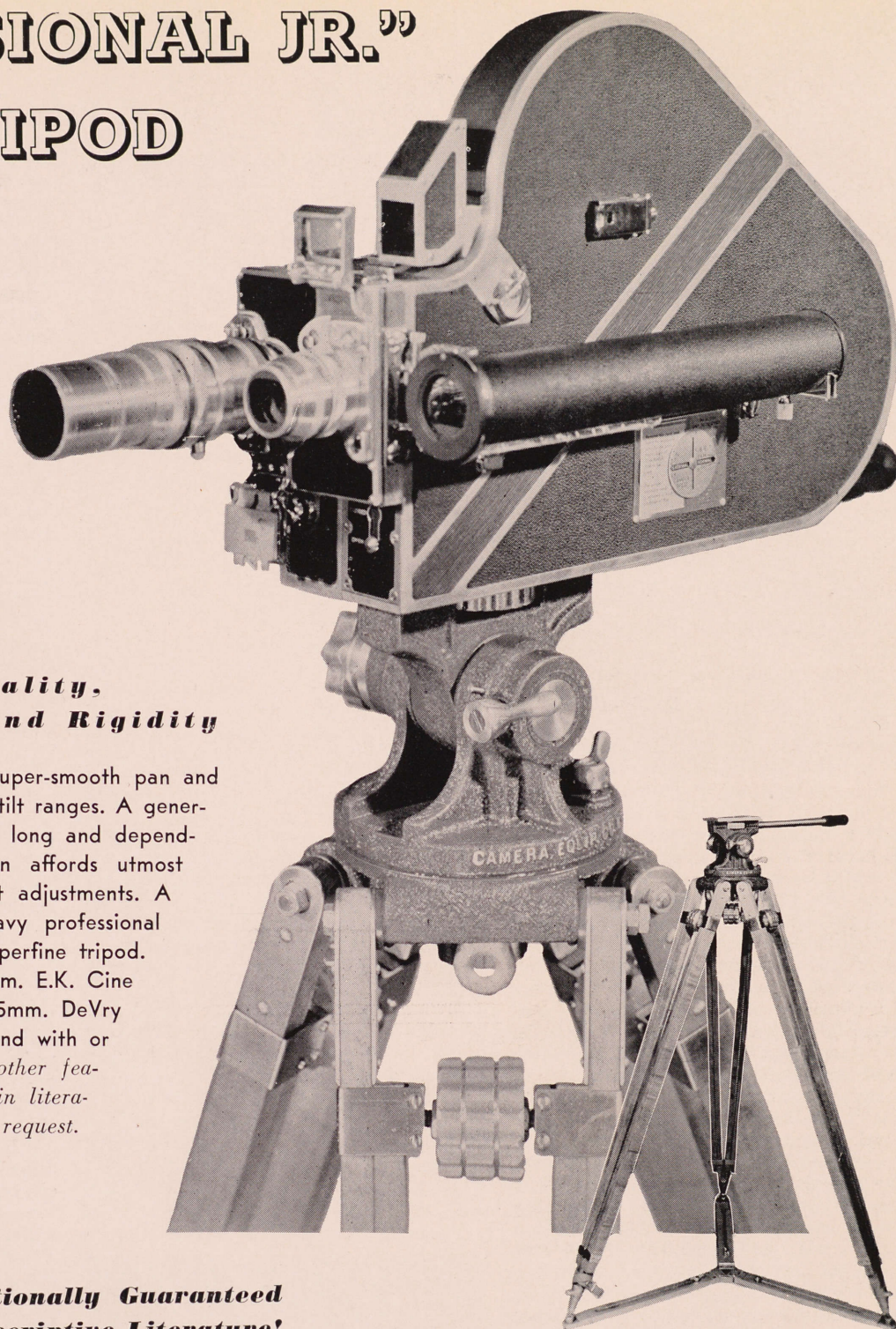
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Above—Collapsible and adjustable telescoping metal triangle. Extends from 16½" to 26½". Has wing locking nuts for adjusting leg spread and stud holes for inserting points of tripod feet. Triangles prevent damage, insure cameramen that their equipment remains in correct position and will not slip on or mar any type of surface.

Left—35mm Eyemo with motor and 400 ft. magazines mounted on "Professional Jr."



The Cunningham Combat Camera was the major development in professional motion picture cameras in 1942.

TECHNICAL

IN common with almost every other part of our daily living cinematography, both professional and amateur, has been dominantly influenced during 1942 by the fact of America's participation in the war. In some respects this influence has been a limiting factor; but in others it has had the opposite effect of accelerating the development of both existing and new methods and equipment beyond anything which could have been expected otherwise.

Anyone who attempts to chronicle the year's cinetech progress must be struck by the fact that his list will contain fewer mentions of new equipment and materials than has been the case in many a year. The necessity of diverting metals, engineering ability, manufacturing capacity and even film itself into channels directly connected with the War Effort has seen to that.

On the other hand these same shortages—to which is speedily being added a shortage of trained technical manpower in the studios—are leading to the development of professional methods and accessories which should prove of lasting value to the industry long after the war is won. In the same way the technique and scope of 16mm. films for educational and training purposes are advancing at an unparalleled pace.

Methods

The methods of professional production are undergoing an almost revolutionary change. Where for nearly forty years it has been an industry-wide tradition that "film is the cheapest thing on the lot," today film has become one of the rarest and most valuable. Due to

the tremendous use of motion pictures by the Armed Forces, drastic reductions in the amount of film available for civilian use have had to be made. In consequence, the keynote of today's production practice has necessarily to be the conservation of every possible inch of film.

Every studio has therefore placed definite limitations on the number of "takes" which can be made of any normal scene, and much more painstaking rehearsal of both dialog and action have become universal. A similar restriction on the number of "takes" which can be rush-printed is also generally applied. Both of these reforms, incidentally, have long been advocated by many of the indus-



The constantly increasing use of 16mm. by the Armed Forces was one of the most significant developments of the year and greatly influenced conditions in both professional and amateur photography.

try's leading technicians and creators, not only as worthwhile economies, but as steps toward better production quality. Present experience seems to be bearing out these claims.

Another step in conserving film has been an even more drastic reduction in the number of pre-production tests made. In some studios, tests on motion picture film have been almost entirely eliminated and replaced by tests made under the lighting control of a director of photography, but employing still photographs as the visual medium. Due to the shortage of 16mm. film—especially Kodachrome—the use of 16mm. for testing has fallen off sharply.

In this connection, a suggestion made by Lee Garmes, A.S.C., is worthy of note. He has suggested "pre-photographing" complete productions in 16mm., preferably with single-system sound, and thereafter using the completely edited 16mm. version as a virtual blueprint by which the production itself could be photographed in almost precisely its ultimate release footage, with a minimum of superfluous scenes, overlaps, etc.

On the mechanical side, the use of automatic scene-slaters which make use of the footage inevitably consumed in bringing the camera up to speed to carry scene-identification data has been extended considerably. Several studios, sound engineers, and others have also conducted useful studies of the various systems of synchronizing and starting cameras and recorders, also in the interests of conserving film.

Several decidedly less practical expedients for conserving film were also advanced, but like the "wide film" flurry of a decade ago progressed little farther than the conversational stage, and for much the same reason. These plans all aimed to save film-footage by reducing either the standard picture-frequency or the depth of the frame aperture, or both.

A few enthusiasts advocated reducing the standard taking and projecting speed from the present 90 feet per minute to the former silent-picture speed of 60 feet per minute. Others suggested accompanying the reduction in lineal film speed with a reduction in the depth of the frame: one group favoring reducing the height of the frame from the present 4-sprocket standard to 3, and another group urging the even more extreme change to a frame only two perforations high.

All of these expedients would unquestionably have reduced the industry's consumption of film—especially release-print positive—very materially, but all of them would require the replacement of gearing, and in some cases intermittent movements and optics as well, in all of the country's projectors, which would obviously conserve film at the expense

PROGRESS IN 1942

of critical metals and precision manufacturing plant capacity, to say nothing of industry-wide confusion while the transition was being effected.

Another significant change in the industry's methods was effected by the governmental limitation on the use of new materials in set-construction. Aside from the obvious problems in the construction of interior sets (which will be discussed later), this limitation created new problems in the filming of exteriors.

Several studios met this challenge by sending complete production units on extended location trips, where transportation conditions permitted, to film natural exteriors, as in the cast of Paramount's "For Whom the Bells Toll," where much of the exterior action, originally intended to be filmed on stage-built exterior sets, was photographed under difficult conditions in California's High Sierras. Where actual towns or buildings could be used in lieu of sets, several studios did so, as in the case of Universal's "Shadow of a Doubt," for which director Alfred Hitchcock and cinematographer Joseph Valentine, A.S.C., made use of an entire Northern California town in place of studio-built exterior sets.

In other, less spectacular instances studios arranged to send their units to standing sets in other studios for such scenes. In one current production the exteriors are being filmed on standing exterior sets in no less than five other studios.

With the coming of wartime coastal dim-out regulations, the filming of night exteriors has become another added problem. In some instances, this is being solved by photographing these scenes by daylight with appropriate filters, in some instances on Infra-Red film, and in others on standard panchromatic negative with the popular 23A-56 combination filter. In other instances, where possible, such scenes are being photographed with artificial lighting, under canvas. This problem is by no means to be regarded as completely solved, however.

What may in the long run prove the year's outstanding development in technical methods, however, is the amazing advance made in the professional use of 16mm. film—especially Kodachrome—for subsequent enlargement to 35mm. In addition to a number of excellent short-subjects made in this manner and released in 35mm. Technicolor, two outstanding featurettes—the Navy's "The Battle of Midway," and Walt Disney's "Saludo Amigos!" (live-action sequences)—have been made originally in 16mm. and enlarged, and at least one feature, Loew-Lewyn's "Moon and Sixpence," has employed an enlargement from a 16mm. Kodachrome original to provide a color sequence. Successful tests have also been made using enlarge-

ments from 16mm. originals for process background plates.

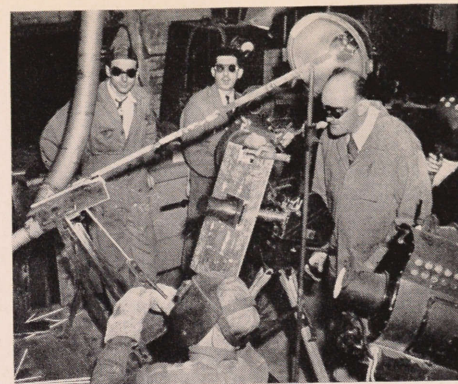
Film—Professional

With all of the nation's raw film producers straining their capacities to the utmost to meet an unprecedented demand for film, obviously no new cine-film products could be introduced during the year. However, recent reports from the Agfa Ansco organization indicate that this company, through one of its subsidiaries, has perfected the cellophane-like "Ozophane" film-base material with which they have been experimenting for some time. Commercial introduction of this product naturally awaits the termination of the war, though it is understood that Ozophane film is in manufacture, with the total output being absorbed by the military for unrevealed special purposes.

Film—Amateur

For the same reason, no new film products in 16mm. or 8mm. have been introduced. Due to the widespread use of 16mm. for military training films and for reduction prints of professional features for entertainment of troops, virtually no 16mm. positive film is available for civilian use. Substandard reversal film products (at this writing) remain available for civilian use, however, though in considerably restricted quantities. In general, manufacturers and dealers are voluntarily rationing substandard film, selling it only in reduced quantities and, in the case of regular commercial users, on a quota basis based on the customer's previous regular purchases.

A new and important use of 16mm. film is in the "V . . . — Mail" service. This is an extension of the "Airgraph" system pioneered abroad by Eastman's British affiliate, Kodak, Ltd., to facilitate transportation of letters between soldiers overseas and their families at home. The letters are written on special blank forms, which are taken to a central depot and photographed on 16mm. film. In this form they occupy only a fraction of the space occupied by



The rapidly expanding use of motion pictures, especially in 16mm. for military and industrial training is bringing enormous advances in visual education technique.

a normal letter: 85,000 letters, which would normally weigh a ton, will weigh but 20 pounds when microfilmed, and a single 100-foot roll of 16mm. film will record over 1700 letters. In this form the letters can be flown to their destination, where they are photographically enlarged to readable size.

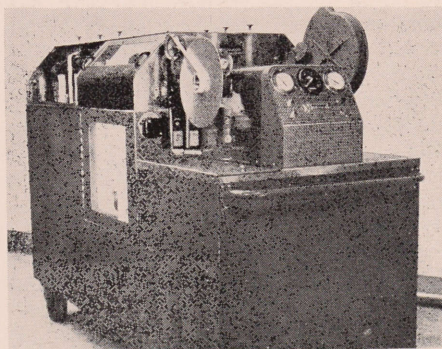
Color

Paradoxically, despite the restrictions on the availability of film, the use of color—notably, of course, Technicolor—in 35mm. production has not in the least lessened. If anything, it has increased, with a constantly increasing proportion of the industry's major features being enhanced by the use of color. It may therefore be very definitely concluded that color, properly photographed, has proven itself at the box-office, for otherwise it would certainly not be so widely employed under present conditions.

The Technicolor process in its three-strip form continues to enjoy its virtual monopoly of feature production. Some potential competitors exist, however; three-color Cinecolor seems to have reached the commercial production stage, though there remains the drawback of the lack of adequate three-film cameras other than the Technicolor ones.

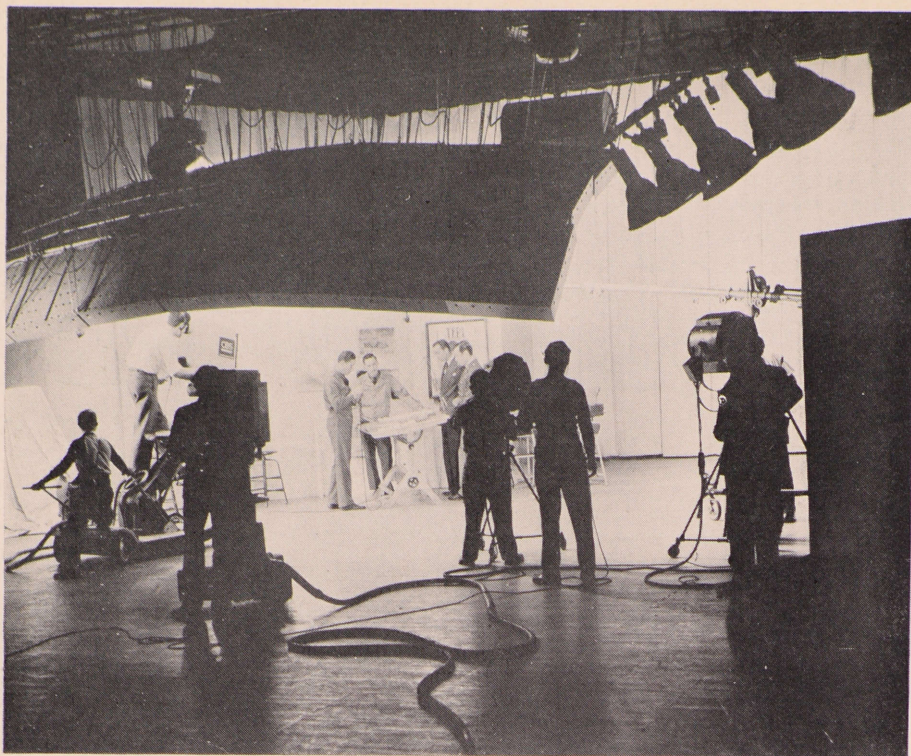
Some use has been made of Technicolor's much-rumored single-film or Monopack process which seems essentially to consist of a 35mm. Kodachrome-type reversal original which is subsequently copied to make the necessary three-color separation negatives for regulation Technicolor imbibition release-printing. This process has been used for special scenes in a number of productions—particularly in instances where the bulk of the usual three-film camera was physically impractical, or where camera-speeds higher than the rather limited speeds possible with three-film cameras were necessary—and at least one feature film, Disney's picturization of de Seversky's "Victory Through Air Power," has been completed with Monopack used for all the live-action scenes.

The successful adaptation of the Monopack principle to a negative-positive system and the production of natural-color stills with prints on an opaque base has been achieved in Eastman's Kodacolor



The portable, self-contained and almost wholly automatic Houston developing machine, developed for field service with the Army, was the 1942 highlight in laboratory advancements.

(Continued on Page 36)



Telecasting a demonstration of Army Training Film production. The uppermost lighting units are 3 kw. mercury vapors. Next, the main bank of fluorescents rated at 7 kw. but actually the equivalent of 21 kw. due to greater sensitivity of the "ike" to color temperatures approaching daylight. Overhead incandescents are 1000-Watt units totaling 5 kw. Spotlights are 5 kw. Total wattage on the set is 24 kw. Lens apertures, f:4.5. Iconoscope sensitivity equivalent to Weston 50.

The Cameraman's Part In TELEVISION PRODUCTION

By EDWARD ANHALT

Chief Cameraman, CBS Television Studios, New York

ON May 12th of this year, the Federal Communications Commission amended its television regulations to "permit licensees of commercial television stations to broadcast but four hours of program service per week instead of the fifteen hours weekly, required heretofore." In its explanation of the new rules the Commission stated that "The step was taken to prevent recession of this new art to a purely experimental or laboratory stage and to keep it alive, ready to flourish as a public service after the war emergency." The rules, it continued, "will permit licensees to conserve the life of their equipment, particularly tubes, and will permit television stations to operate under conditions of greatly reduced personnel."

Since that date the channeling of television's technicians and equipment into war work has accelerated. Telecasters have had to reduce correspondingly the production value of their live programs and resort more and more to theatrical films or war-effort programs canned on film. Public interest in television, consequently, has dropped to a new low.

Paradoxically, however, the deader the art looks to the public, the more lively it grows behind the locked doors of the laboratory and the conference room.

For some time past almost all television laboratories and personnel have been engaged in applying the electronic principles of television to war work of the most strategic and secretive nature. It is no military secret, however, to state that just as radio grew through World War I, startling technical advances have been made in television since the War emergency began. Out of them will come the technical base of the post-war industry: 1) Adequate screen size, 2) Network television, 3) Satisfactory rendition of picture detail, 4) Full-color television.

Further, careful evaluation of the over-all national experiments in television production, plus our own practical experience at CBS, have led us to the conclusion that we now know how to put our own television programme service on a practical economic basis just as soon as the United Nations' victory releases these technical advances to us.

With reference to the status of television, Standard & Poor's warns, in its current survey of the motion picture industry, that the industry's post-war outlook is "generally favorable, though competition from other forms of amusement now restricted will probably hold earning power below recent high levels for some time . . . over the longer term the industry faces the threat of commercial television."

For all these reasons it seemed to me that an account of television production might be timely even though all our minds and many of our bodies are currently occupied in the pressing matter of winning the war. The following paper is, therefore, submitted with the reminder that it is necessarily a highly personal impression of a controversial subject about which there is no critical literature and little recorded history.

All television set-ups, outside of those encountered in mobile or non-studio pick-ups, are basically similar, however they may differ in details of construction. There is a stage area around which are mobile and fixed light-sources in varying combinations. Over the stage area are microphones on booms and cables. In front of the stage area are from one to three television cameras on dollies, perambulators, or rolling tripods. These are connected through cables to a control room. The control room has monitor tubes, or screens, which show the director the pictures picked up by each of the cameras plus conventional audio monitors and control panels. Cuts, fades, or dissolves may be made between cameras so that at the flick of a switch the picture pick-up of any one camera can be transmitted over the air in preference to that of any other camera.

The director, other production people, and engineers are in touch with the cameramen and studio technicians over headphones. Cameramen talk back to the control room with hand signals since there can be little talking over phones while a show is on the air. The basic problem of effective pick-up is to manoeuvre cameras around cables, lights, sets and booms so as to simultaneously miss none of the action, take effective shots and permit optically pleasant cuts between cameras.

As in radio, the control over the show exercised by producers or directors can be measured almost exactly by the extent of the rehearsal and planning time available. But, regardless of the amount of preparation, television's primary quality of instantaneous transmission rules that much of the responsibility for

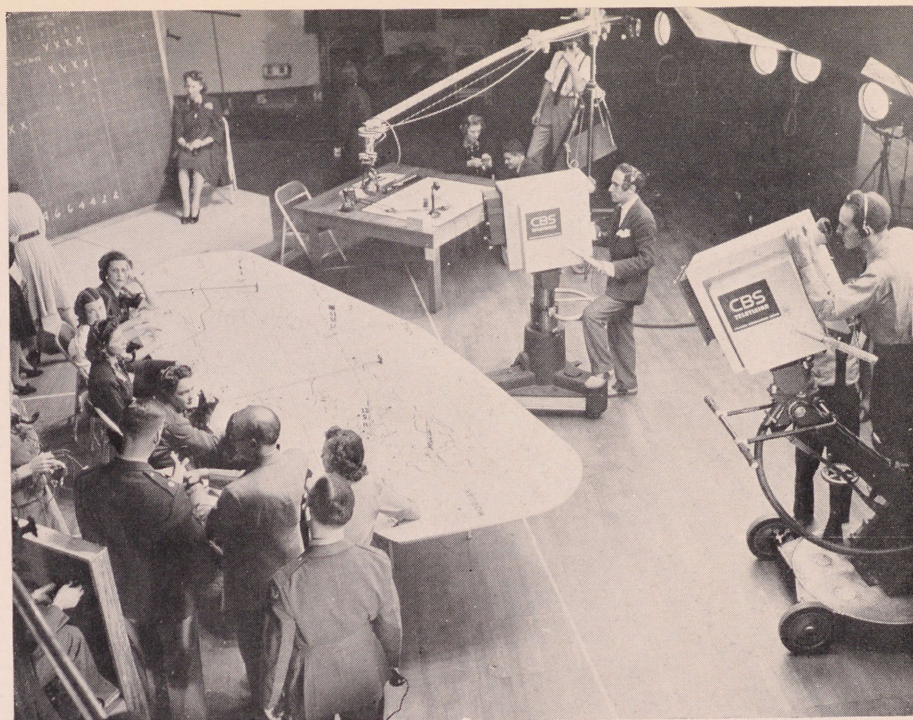
the success or failure of the pick-up rests with the cameraman. This does not mean that skillful camerawork can pull a bad program very far out of the mud. As in the film industry and radio, bad material can only result in a poor show no matter what the technical workers can do to help it. What it does mean, however, is that good material obviously can only be carried effectively to the television audience if the cameraman gets it there. He cannot save it if it is bad, but he can ruin it if it is good. And since the picture is transmitted over the air when he takes it, he must be right the first time. There are no retakes.

At CBS and, so far as I know, at other studios as well, life for the cameraman was harder than it will be when the industry is fully developed. The pressure of progressive experiment plus the fifteen weekly hours of programmes required by the FCC allowed for so little rehearsal and planning time that most of the action that occurred on the stage was actually unrehearsed and a great deal of it spontaneous and unpredictable. The director's control over the action was, therefore, not absolute as it is in pictures. His control over the cameras was limited by the instructions he could communicate succinctly to the cameramen who, by virtue of the unpredictability and speed of the action, had really to be prepared to carry out these instructions before they were given if the pick-up was to be successful.

We at CBS, particularly those like myself who functioned both as cameramen and directors, recognized the heavy responsibility of the cameramen and tried to confine instructions to them to advance warnings of actions to come or cues for camera treatments previously agreed upon.

Note that this lack of rehearsal and technical planning did *not* mean that our programmes were unprepared. The skeletons of all of them were laid out in advance. It *does* mean that we were forced to develop personnel and techniques competent to carry out the general line of a programme with the minimum attention to the details of its execution before air time. The operation and coordination of cameras, lights, mikes, and properties was rarely rehearsed. The technical execution of the show was left to the mental agility of the director and the familiarity of the technicians and cameramen with the demands of the medium.

Naturally, we have never assumed that dramatic shows or tightly written factual material could be presented in that way. We do know, however, from our off-the-air experiments in more formal television programmes, that training in the off-the-cuff production methods of our informal shows will allow



us to cut considerably the rehearsal time of formal material. It may seem a wild statement to those accustomed to stage and motion picture rehearsals but we think it will be entirely possible to air a one-hour dramatic show, complete with film inserts and rear-projection, with only three hours of technical rehearsal in the studio.

As part of the experiments in this direction at CBS, I produced a rather elaborate forty-five minute report—a television “documentary” about the Training Film Unit of the U. S. Army Signal Corps. We did not have time for technical rehearsal—lights, cameras, booms, etc., were not used during the two-hour, off-stage run-through. We transmitted still pictures, slides, two training films, a re-enacted sequence of methods of training in World War I, a scenario story conference, a sequence covering animation methods, and the actual shooting of a film sequence with film cameras. Personnel on the show were twenty-two officers and men.

The element of short rehearsal time—that is, short when compared with rehearsals in film or theatre—is common to both radio and television. In radio, it has produced two distinguishing conditions which will probably carry over to television. These are known as the “repetitive beat” or “programme cycle,” and the plot “pattern.” These phrases, recurring in the various current sociological surveys of radio, mean simply that a) most radio shows are aired regularly at the same time every day or every week, and b) the same continuity skeleton for variety or audience participation programmes and the same plot situations and character delineations for strip shows are maintained week in and week out. This “repetitive beat” exists because radio’s advertisers must have a continuing audi-

ence, and the plot “pattern” exists because it saves large sums of money in the labor time involved in production and rehearsal.

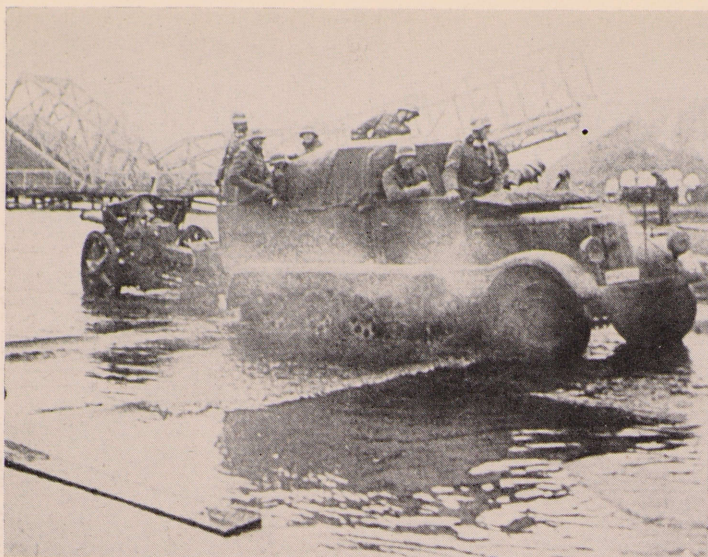
During the past year, when television ran on a fifteen-hour-per-week program schedule, we, at CBS, experimented with the radio “pattern” of a daily or weekly cycle. Each Wednesday we did a show based on square dancing, and each Thursday night a quiz. Every afternoon an illustrated children’s fairy-tale, and so forth.

After the first few weeks we were able to create a television equivalent of the radio “pattern.” We could do, therefore, with less and less rehearsal time for all of our “pattern” shows. Naturally, we changed the material, questions and personalities of, say, our quiz program, each week; but the sequence of specific *types* of questions remained the same—hence the basic skeleton of camera, lights, and sound coverage remained the same.

Similarly, our vaudeville or variety show used different acts but they received the same sort of production treatment and consequently they could be divided into five or six categories for camera treatment (*i.e.*, routine treatments for ballroom dancers, monologists, acrobats, singers, and so forth.)

In short, we escaped from the necessity of long rehearsals by following almost exactly the same routine as to continuity, setting, space relationships and lighting, week in and week out. The radio equivalent of our “pattern” show is recognized as good programme practice and so long as the actual material—plots, gags, songs, documentations, quiz questions—are changed, the effect is not harmful. The Allen and Benny radio shows have the same basic skeleton week after week and the radio

(Continued on Page 30)



German Propaganda Movies In Two Wars

By STAFF SGT. ALFRED W. ROHDE, Jr., U.S.M.C.

WE hear a great deal about German propaganda movies, but they are by no means an invention of the present generation of Nazi Germans. They had their beginnings under the Imperial German Government of World War I, and the Nazi propagandists of today have merely streamlined and vastly expanded a tool left to their hands by their predecessors who lost the First War Against Democracy. Perhaps we can take it as a good omen that in both instances of the use of films as a weapon by the self-styled "supermen" of the Reich their celluloid weapon has backfired upon its users!

Following the axiom that a soldier is better armed if he knows how the enemy uses his weapons, the writer, as a cinematographer in the United States Marine Corps, has tried to learn as much as he could about Germany's making and use of propaganda films. It is a story which probably will not be completely pieced together until after the war, when we have access to secret data and films in a captive Berlin; but even the little information now available should be of interest to all of us who are making and using motion pictures in the Free Countries of the Democratic world.

At the outbreak of World War I, the Imperial Film Office of the German Government started the making of the first propaganda films, to bring the actuality of war home to the German people. Their aim was to send the German

moviegoers from the theatres in a mood of glowing patriotic enthusiasm and (especially later) to inspire them with the determination to "stick to it" to the end and achieve victory at any cost.

"Direction" in those early propaganda films seems to have been a bit naive, to say the least. The British were usually the villains (remember the famous "Hymn of Hate"—?) and the makers of these films would round up a cast of laborers, farmers and village youths, dress them in the uniforms of the British and German armies, and stage their war scenes in the best Hollywood fashion. By this means, and often with the aid of ingenious mechanical devices, they could film any desired type of battle victory over the hated English.

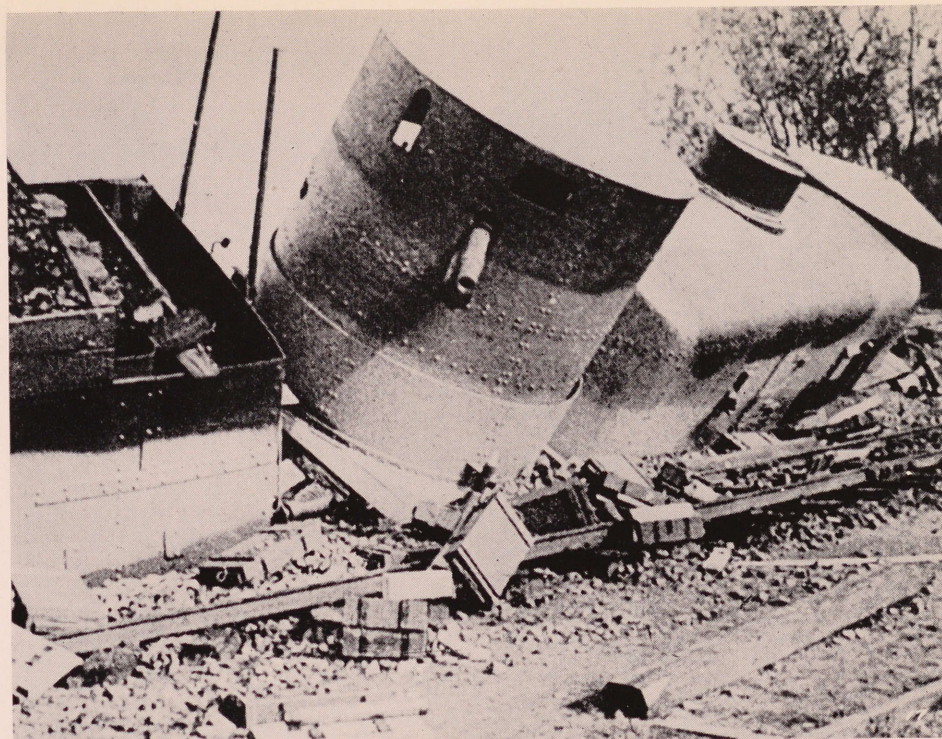
One could stroll along a quiet country road and come upon a horde of yelling men whose spiked helmets and wicked-looking bayonets glistened in the summer sun as they charged a trench filled with khaki-clad "Britishers" who cowered and surrendered appropriately. On the screen one would shudder involuntarily at close shots of a glinting bayonet sinking two or three inches deep into a khaki-clad body, with an accompanying gout of blood jetting outward. But in reality these points on the "Englander's" body were protected by felt pads, and the bayonets were very special ones, attached to the barrel of the rifle with a spring which

would permit the bayonet to retract several inches on striking a solid object.

During the later part of the war there were cameramen attached to some of the German military and naval units in the field for the express purpose of making films for propaganda and for historical record. One of the most celebrated of these films was a picture made by a cameraman who cruised with a raiding U-boat and filmed the sinking of many Allied ships—some by torpedo, and some by gunfire. This particular reel may have glorified the Kaiser's submarine service at home, but when a print eventually got into Allied hands, its release in England, France and in this country in 1918 and 1919 had an effect precisely opposite to what its makers had planned.

During the years between the wars, as the German film industry under the "Second Reich"—the Republic—built itself up to a paramount position in Europe, more than a few theatrical films were made of themes which in one way or another helped to keep alive the German militaristic spirit which the Allies mistakenly thought they had crushed at Versailles. Some of these—like "Armored Cruiser Emden"—re-enacted heroic actions of the war. Others glorified individuals of that and earlier wars around whom the Prussian tradition had been built and grown. And as a matter of course, wherever in any picture an Englishman or an American could be made a villain or a low-comedy char-

RECIPE FOR PROPAGANDA, NAZI STYLE—show the efficiency and invincibility of your troops and equipment (opposite page) and the ruin they make of your enemies' forces, like this wrecked Polish armored train. Pictures enlarged from official German war movies of the Polish blitz.



acter, it was done—to sure success with the German audience.

When the Nazis came into power with their "Third Reich," they very quickly grasped the reins of the German film industry, for they had a keen appreciation of its value as a means of propaganda both at home and abroad. But their technique of film propaganda was a bit different. They used their films as a deft showcase for their theory of the German Super-race and, later, to subtly build the myth of German invincibility.

One of the first and biggest successes of this new technique was in the handling of the official films of the 1936 Olympic Games, which were held in Berlin. This task was delegated to Actress Leni Riefenstahl, a close friend and favorite of the Fuehrer, though since, it is understood, "liquidated." All the resources of a state-controlled film industry were lavished on this epic. Scores of cameramen covered every event in the game, often with special cameras and telephoto lenses of unheard-of power and speed. Over 2,000,000 feet of film were exposed by the German cameras . . . and the Government conveniently saw to it that no foreign cameras or cameramen were permitted to film anything.

Those who have seen the film—I believe there are a few in Hollywood who will bear me out—report that, viewed strictly as a film, it was a superb achievement. But it was also a subtle piece of propaganda, for in both the full-length feature version and the twenty separate short-subjects cut from this negative, the triumphs of Nazi athletes were subtly featured. Versions of these films were sent to each of the countries which had sent teams to the Olympiad, in each case with narration carefully recorded in the language of that country. Naturally these films received widespread showings in many countries, though not in this country, despite the personal efforts of Fraulein Riefenstahl to arrange for American distribution.

The following year—1937—Hitler tightened his hold on the German film industry, forcing out most of the producers, technicians and artists who had made it the foremost in Europe. He appointed a film coordinating board—the notorious "Reichsfilmkammer"—which consisted of twelve people: six bankers, five actors and an "official" Government representative, but all of them directly or indirectly representatives of the Minister of Public Enlightenment and Propaganda, Dr. Paul Joseph Goebbels. As Goebbels stated, "The German film has reached the point where it must fulfill its duty to the State. It must exercise international influence."

So Dr. Goebbels converted the UFA Studio at Neubabelsberg—one of the

largest and finest in the world—into an assembly-plant for making celluloid propaganda for Nazism. Directors, technicians and artists were put to work, three shifts a day, twenty-four hours per day, grinding out films that glorified the Nazi ideals of the Super-race, of devotion to the State, and of hatred for the rest of the world. Shooting and production schedules were cut in half; sets were made to do double duty. UFA's 14 sound stages, 21 cutting-rooms and five private theatres hummed with day-and-night activity.

Meantime, too, the studio personnel were trained in Air-Raid Precautions; emplacements were made for anti-aircraft guns, and special personnel told off and trained for their operation; special lamps, far too powerful for use with today's fast films but ideal for anti-aircraft searchlight duty, were bought and installed in the studio's electrical department. UFA was getting ready for war!

When the war came, UFA personnel were considered in the same category as the personnel of any other essential factory in Germany. They were conscripted and assigned to the studios, just as others were conscripted and assigned to service at the front. For a while it was thought that the German theatres might have to close down for lack of trained technicians to operate the equipment, but the wily Dr. Goebbels realized that he could not show his propaganda films without theatres. So more than 12,000 of the male technicians in this field were replaced by women. Training-schools were instituted, where the sisters, wives and sweethearts of the conscripted projectionists and other technicians were trained so they could eventually step into the places left vacant by the men.

These UFA films—ostensibly enter-

tainment films, for the most part—soon became the backbone of Axis film propaganda. Being ostensibly entertainment films for theatrical release, they could be exported to many foreign countries, especially those to which, as the war progressed, it became difficult or impossible to ship American films. Being Government-subsidized, they could be distributed at cut rates—even given away, if that was necessary to get them into the theatres.

These films had two chief purposes: to create confusion and disunity in countries which, by either military or by political conquest might in time be brought under Nazi influence, and to show off to all countries the Nazi dictatorship on dress parade. Coming in the guise of entertainment, these films could catch audiences unawares, and subtly implant the ideas their makers sought to spread. Dr. Goebbels felt that it was not necessary to get the foreign public to agree consciously that his ideas were good ones as long as the ideas themselves were presented with realism and cinematic effectiveness. The idea, subconsciously implanted during an "off-guard" moment, was almost sure to take root and grow of itself. This is film propaganda in its most potent form.

But the Germans' most spectacular film propaganda, both at home and abroad, was the Army "war newsreel" and the other, longer films of the might of Wehrmacht and Luftwaffe. In the early part of the war, at least, these war newsreels proved so popular for home consumption that most moviegoers reserved their regular seats in their favorite theatres days ahead of time. Every week more than a thousand prints of these reels were made, cut and edited by the UFA propaganda experts, with

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Camerawork On A Convoy

By HARRY PERRY, A.S.C.

AFTER spending nearly three months aboard corvettes and destroyers with transatlantic convoys while we filmed backgrounds for Universal's "Corvettes in Action," my dominant impression is a feeling of profound respect for the hardy sailors who man the ships—warships and cargo-carriers alike—which form and guard the United Nations' far-flung lines of supply. Theirs is the hardest kind of work, often under incredibly difficult conditions, in fair weather and foul—and always with the ever-present consciousness that at any moment a torpedo may get home with its quarter-ton explosive charge exploding against your ship as you've seen it happen so often with others.

I don't think any of us in the picture troupe, which consisted of director Dick Rosson, operative Len Powers, assistant cameraman Bert Eason and myself, are ashamed to admit that we drew a sigh of relief when we knew our stint was over and we could head back to Hollywood. Yet we had only a few short weeks of it: those convoy sailors can look forward to shuttling back and forth on their dangerous duty "for duration." And they take in their stride, trip after trip! You've got to take your hat off to men like that. They've got what it takes!

From the photographic viewpoint, the experience was particularly interesting to me because it gave me an idea of what some of the cinematographers in the Navy are up against when they take their cameras to sea. And I hope that perhaps some of the things I learned may be of some help to Naval cinematographers who may be faced with similar assignments.

I think the first thing I learned (it came as something of a surprise) was that warships' decks are made of steel. Most of us know, in a hazy, subconscious sort of way, that modern ships are made of steel, decks included. But most civilian ships, like the crack liners I had so

often crossed on in peacetime, keep the steel of their decks discreetly covered up with wooden planking, and coming upon the bare steel of a warship's decks brings you up with a sudden start.

This may not seem like an important photographic point, but it is. Setting up your camera on a conventional wood-sheathed deck is a cinch, for the points of the tripod-legs can bite solidly into the wood, and then, if you run a screw-eye into the planking, you can quickly tie down your camera so solidly that for all practical purposes the tripod is a part of the ship itself.

But on a steel deck you can't do this. The steel-shod tripod-legs that held so firmly on the wood slip and slide on the steel surface even worse than on concrete. And you haven't anything, as a rule, to tie to when you want to chain down your camera.

So if you are using a tripod-mounted camera of any kind, rule No. 1 is to come equipped with at least one of the wooden triangles used for setting up tripods on hard or polished floors. Set the tripod rigidly on that and chain it down.

Then lash the whole assembly of triangle, tripod and camera in place as best you can. You'll probably have to use several long lines to do this, for wherever you set up, you're sure to be several feet away from the nearest stanchion or other object to which you can attach your tie-down line. Better equip these lines with turnbuckles, too, so you can make things really rigid. This may seem like a lot of trouble the first time you do it—but wait till your ship starts dancing in a seaway. You'll realize then just how important it is to have your camera tied down rigidly!

This applies to any ship, but especially to destroyers and corvettes. Destroyers have long had a well-deserved reputation for pitching and rolling wickedly in any sort of rough weather, but at least they're big enough so they tend to knife through the waves. The corvettes are smaller; they bob up and down and sideways with every wave. And the waves don't have to be very big to make a small craft like a corvette gyrate wildly. Waves you wouldn't notice from the solid deck of a 50,000-ton liner like the "Normandie" are enough to make a corvette bounce around like a seagoing jitterbug.

As a matter of fact, we brought along a gymbal tripod with the idea that it would enable us to get steady pictures in spite of the motion of the ship. But no matter how we rigged it, the gymbal didn't have enough swing or react quick enough to keep our shots desirably steady.

Rule No. 2 for this kind of camerawork would be to remember that aboard a convoy in the danger zone, anything is likely to happen at any time—and the cameraman who wants to get it on film had better be ready! This means keep your camera where you can get it into action as fast as you can. When a submarine "wolf pack" starts loosing torpedoes, and your destroyer or corvette spins off at full speed to take appropriate action with depth-bombs, there's no time to set up a camera. It's got to be ready right then—or never! There are no re-takes.

Except when we set the camera in an unusual place to get some specific action, as, for example, when we set up between two rows of depth charges to "cover" the action of dropping ash-cans (we raised some interesting oil slicks, by the way, hinting that one or two U-boats had gone down to make their crews really "good" Nazis!) we generally kept the tripods for the studio-type cameras more or less permanently set up and ready on the bridge or on the highest deck, with the camera all assembled in a box nearby, so that we'd have the widest possible field of view.

We supplemented this with a loaded Eyemo always kept on the bridge, where we could get it into action in a matter of seconds. That, by the way, paid dividends on more than one occasion.

This business of keeping the cameras always ready brings up the problem of keeping your equipment adequately dry. On a small, low-lying craft like a destroyer or corvette, there's nearly always some spray flying, and in even a moderate sea, everything on the ship gets genuinely *wet*. When we had our studio cameras mounted in exposed positions, we kept them as well covered as we could with tarpaulins and slip-over sacks (well tied at the mouth) made of what was supposed to be waterproof canvas. This proved to be entirely inadequate. If I had the job to do over again I'd provide each camera with a covering "barney" made of oilskin, which is really waterproof, and fitted with a zipper and an extra-tight strap to draw the sack as close as possible around the tripod-head. Even so, you'd have to spend plenty of extra time at the end of each day carefully wiping and drying out every part of the camera, as assistant Eason did with us.

Working in black-and-white, it's a good idea to take along a generous supply of at least two different types of film. During the day on the North Atlantic, when the weather is at all good,

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IT is with the sincerest deference to all members of the A.S.C. that I write this article. It makes me feel like I'm trying to tell my Dad how to raise children. It is only intended for those who are not yet "dads" but whose intentions are thus and wish to add this information to their collection.

Color, cinematographically speaking, is entirely a matter of taste. Some like blondes, some like brunettes and red-heads; others like warm colors, cold colors, pastels, neutrals and heavy colors, and of course there are those who must have magenta. I, for one, like the warm neutral tones. An astrologer said that's because I was born in May.

To get down to business, however, I have learned that a little knowledge of astrology, psychology, entomology, accounting, arithmetic and a good sense of humor are extremely helpful in the course of the daily routine of a color cinematographer, especially if he is shooting Kodachrome . . . and at current prices.

Since Kodachrome is one of the current subjects of serious discussion among cinematographers, let's continue on the basis of this material.

First of all, I believe I can say without fear of too much contradiction that there has yet to be screened a truly perfect Kodachrome picture. The reasons are varied, but the one big trouble has been RUSH, coupled with a good deal of indifference, and lack of budget.

Technicolor turns out some truly beautiful pictures . . . but they take their time to be sure they are right, regardless of cost. They have a good reputation to uphold and they intend to keep it that way.

Kodachrome's reputation seems to lie in the laps of the cameramen, so it's about time that something is done to uphold it, too.

Usually a cameraman with a personal liking for cool colors is assigned to a picture whose producer is an addict for something else. This is where astrology comes in. Formula: find out when he was born, look up his color-chart, and proceed accordingly.

Of course, it's much easier to use little or no psychology by walking right up to the man and asking him how he wants his colors . . . hot or cold, thick or thin. In the event he doesn't know what he wants, use some "ingenue-ity" (there's always some around), or use some of the good common-sense that made you a cameraman. Until you know what colors your producer likes you'll never please him, and he's the one who counts most.

Shooting Kodachrome isn't such a bugaboo as some think. It just takes common-sense and good, serious thought to make it work as the manufacturer intended it should. It cannot be mistreated. Those who think that it is merely necessary to set a lens at $f:5.6$ at 24 frames and let her roll for exterior scenes usually find out that as cameramen they make good aspirin salesmen. And you can't open a lens wide, throw

in some light and roll it, and get good interiors either.

Just because most Kodachrome comes 16mm. wide and is run through a small camera on a light tripod doesn't mean that it can "see into the shadows" or "ignore the hot spots". Nor can you tell the lab to put it through at 12 minutes and print it on a 19 light. And you can't "blame Eastman" for red faces, black shadows, purple water, or too heavy a blue sky. That, my friends, is YOUR fault. Eastman can show you "good" stuff run through the developing machine just ahead of and behind yours.

If you are working for a producer who wants quality, take time enough to give it to him. (I know, I know, they're always in a hurry and on a short budget; but just remember that if the picture isn't good, you're the one who will be a lousy cameraman and a bum.) That's what reflectors, lights, makeup, filters and experience are for. That's what capable electricians, grips, makeup men and cameramen are there to do.

All to often (and I know, but definitely!) there is a tendency on the part of everyone concerned to "short cut" here and there when shooting 16mm. Kodachrome. Maybe it's because they feel reluctant to "spend" money and effort on this "amateur-size" film . . . yet a professional result is always expected when they come to screen the rushes. And a definitely professional result can be had . . . but only through proper effort, care and expenditures.

For the best results on the screen, and that means the final print, or "dupe" if you prefer, Kodachrome must be fairly "flat-lighted," whether shot indoors or outdoors. Shadow areas must be lighted to have ample exposure for the desired final effect, and light areas must be toned down to reproduce correctly. In printing or "duping" Kodachrome, the light areas get lighter and the dark areas get darker, only the medium keys stay the same.

Since nearly every professional 16mm. picture shot is filmed to be shown to an audience it is necessary to "shoot for duping". No matter how good an original may look, if it doesn't dupe good it's a bad shot. Ninety-nine per cent of the time Kodachrome is shot for duping when a professional cameraman is called in to shoot, so it becomes his responsibility to know *how* to "shoot for duping".

It is also true that Kodachrome has some tricks that only experience can master. Daylight Kodachrome was made

to reproduce color quite accurately when shot with a mixture of sunlight and skylight on your subject from two hours before noon to two hours after noon. And that doesn't mean daylight-saving time or war time. It means that period halfway between sunrise and sunset.

Early morning hours are slightly on the blue side of normal and can be balanced to the normal day by adding a thin "straw" filter to subtract the blue. (Notice the arithmetic is now creeping into this business.) Then comes a short period when the light is a little ruddy and a thin blue filter on the lenses will subtract the ruddiness.

From 10 a.m. to 2 p.m. (*sun time*) on a normal day, no filter is necessary. However this can also be a little untrue, depending on the scene you are attempting to shoot. For example, if you are shooting in the shade with only blue sky-light for illumination you will have a very bluish magenta result on the film. A more pleasing result will come from using a degree of orange filtering on the lens to warm up the scene.

However if you have people in the scene the filter will affect their skin-tones. A silver reflector to put sunlight on the faces and skin will help . . . but sunlight alone is quite orange in itself, and while a silver reflector cools down the sunlight somewhat it hasn't quite reached perfection for the scene. A cute little stunt is using a very light bluish scrim between the reflector and the subject that is being lighted. This will put the desired "tone" on the skin.

After 2 p.m. the light turns ruddy again and then it becomes necessary to start adding degrees of blue filtering to the lenses in order to subtract the ruddiness from the scene. (Arithmetic again). Only your eye and experience can determine the density of the filter to use.

Overcast days are usually a bugaboo to many, but if blue skies are not a requisite to the scene, filters and artificial lighting can make such a day a normal working day. And if you please, a good blue backing can give you the required blue sky . . . budget permitting.

Now to go indoors. Eastman made Type A Kodachrome for interior use with regular Photofloods and the popular CP Mazdas. Normally to my eye, I see a magenta overtone to scenes shot on this film with such light. Many producers like this magenta overtone, but I like warmer tones, so I mix standard indoor studio lighting units with Photo-

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Keeping Kodachrome Color Rendition Under Control

By ALAN STENSVOED, S.S.C.

President, Society of 16mm. Cinematographers



Aces of the Camera XXIV: George Barnes, A.S.C.

By WALTER BLANCHARD

ACADEMY Award winner George Barnes, A.S.C., doesn't look nearly old enough or weatherbeaten enough to impress the average observer as being one of the industry's pioneers. Yet he is starting his twenty-sixth year as a cinematographer—fully twenty of them as one of the industry's top-ranking artists—and in addition to the Academy's golden statuette for surpassing artistic achievement, he has played a big part in pioneering some of cinematography's most important technical developments.

It all began back in 1917 when Barnes—just a youngster then—suddenly decided that he wanted to make cinematography his life's work. So he ap-

plied for a job in the camera department of the old Thomas H. Ince studio. What's more, he got it, and was immediately put to work as assistant cameraman for John Stumar, A.S.C.

In Stumar, the young assistant had an excellent and painstaking teacher, and in Barnes, Stumar seems to have had a more than ordinarily apt pupil. At any rate, within eight months of the time when he entered the industry with no previous photographic experience, young George Barnes was promoted to the position of First Cinematographer.

"During the five or six years after that," says Barnes, "I carried on about the way any young cameraman does when he is first put 'on his own.' I made

plenty of pictures—none of them particularly distinguished—good ones and bad ones, hard ones and easy ones. As I grew more sure of myself, I began to experiment here and there as I went along. I suppose I duplicated plenty of experiments other chaps had already made, and 'discovered' plenty of things that others had discovered before me; but I was learning, and gaining that back-log of experience which is a cinematographer's greatest asset.

"The picture that did the most for me during those early years was King Vidor's production of 'Peg O' My Heart,' starring Laurette Taylor. Dramatically, it was good enough to be included in many of the lists of the year's Ten Best pictures. Photographically it was (at least by the standards of 1923) a good enough achievement so that many of the critics went out of their way to comment favorably on the picture's photographic effectiveness, and on the appearance of the star.

"As regards this, by the way, I can say I owe a good deal to The American Cinematographer and its then Editor, Foster Goss. Quite a few of these critics who commented so favorably about the photography of 'Peg O' My Heart' attributed the camerawork to director Vidor. Of course, this was not of his seeking; and I can't blame the critics, either, for most of them had never had cameramen and their work brought to their attention . . . and that was in the days when the director was the One Great Man of production.

"Into this situation stepped The American Cinematographer. Both editorially and in direct personal correspondence, this magazine pointed out to the reviewers that the photographic aspects of a picture are the sole responsibility of the cinematographer, and that the cinematographer in this particular case was a chap named George S. Barnes, A.S.C. I believe that this was the first time that cinematographers and the value of their contribution to a production had been brought directly to the attention of the Nation's major critics. At any rate, it was from that time on that we began to see our major film reviewers paying conscious attention to the men behind the camera."

From that time on, also, Barnes took an acknowledged place among the industry's foremost camera-artists. The pictures which were entrusted to his photographic care became steadily bigger and more important ones, and there came to be a definite rivalry among the industry's top-ranking stars as to who should have the advantage of "Photography by George Barnes, A.S.C." For some time he was with Marion Davies—then at the height of her career—turning out a number of excellently-photographed pictures including "When Knighthood Was In Flower," which stands out in this writer's memory as one of the most beautiful photographic

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THROUGH the EDITOR'S FINDER

WE were rather proud of that page in last month's issue of *The American Cinematographer* which presented the roster of A.S.C. members in the Service. But things certainly have moved fast in that direction these last four weeks. When we first planned that page, there were an even twenty-five stars on the A.S.C.'s Service Flag. When we went to press, we found it necessary to reassemble the page to make room for three additional stars—and by the time the December issue was off the press, there were an even thirty A.S.C. members in uniform. At this writing, there are at least half-a-dozen more either in service or impatiently awaiting their official orders . . . and there's no telling how that list may have grown by the time this appears in print!

For that matter, a list of this magazine's regular contributors (other than members of the A.S.C.) who have gone into Service or into important Defense jobs within the past year would be rather imposing, too. Offhand, we can quickly think of at least a dozen of our "regulars" who are finding other uses than writing for their talents "for duration."

IT seems to us that cinematographers as a class have suffered badly from an overdeveloped sense of professional modesty. Making motion pictures professionally is of course a matter of teamwork, but when you analyze it dispassionately, you cannot escape the conclusion that the director of photography has one of the most crucial and exacting jobs in the whole chain of production. Everything literally depends upon his ability to focus through the little glass bottleneck of the camera's lens the total of the efforts of everyone else connected with the production—producers, directors, writers, players, costumers, set-designers, and all the rest—to the end that their joint efforts may be captured in tangible form on a little strip of celluloid.

And the director of photography is unique in the industry in that he must shoulder his responsibility alone. The producer, to some extent, at least, can share his problems and responsibilities with his executive associates, with the director, writers, and others. The director can share his with the producer, writers, players, cutter, and even with the cinematographer. And so on all down the line.

But the cinematographer stands or falls alone. True, he has his operative crew, but they are strictly junior subordinates. The director of photography must make the decisions, and shoulder the burdens alone. He is the only man in the production chain who has the

specialized understanding to know what he is doing, and whether he is doing it right or wrong. He must cope not only with the rather abstract considerations of visual art, and with the manifold technicalities of a highly-developed science, but often with such strictly practical considerations as whether or not a certain action can be filmed, and if so, if it is worth the cost in time, money and manpower. He has to be a bewildering combination of artist, dramatist, skilled technician, executive and diplomat. Often he must display several or all of these qualities at once.

And for nearly forty years the industry's cinematographers have been so successful at this that it has become almost axiomatic that the man at the camera must never fail. An actor can miff a scene and pass it off with a laugh. The director can miss on a scene and call for a retake without causing comment. The writers, the producer, and all the rest can make errors in judgement and find them accepted as inevitable. But let a cinematographer cause a retake because he misjudged a difficult lighting condition, or the dramatic mood of the action, or the photographic requirements of a star, and you'd think he had committed an unpardonable crime.

Perhaps it is for this reason that most cinematographers seem to pull themselves tightly into a shell of reticence, and seldom, if ever, even attempt to let their closest fellow-workers—much less the public at large—realize what a burden they are carrying, or how greatly they are contributing to the artistic and efficient making of the production.

As a result, many even of the men and women who work most closely with the cinematographers seem to have little or no appreciation of what the men of the camera are doing. An excellent illustration of this might be gleaned from the recent remarks of a prominent director, now commissioned as an officer of the U. S. Army, at a meeting called to seek qualified cinematographers for vitally important commissions in one of the most important branches of the Service. This gentleman who has worked with many of the industry's foremost cinematographers for years, made it rather clear that he knew so little about the work which had been going on day in and day out on his own sets that he rated the director of photography as only a specialist in glamorizing pretty women under ideal conditions, with little or no ability for practical field camerawork, or understanding of practical production considerations.

It makes us wonder who is really to blame: the director who displayed so little knowledge of the calibre and ac-

tivities of his long-time fellow-workers, or the cinematographers who so hid their light under a bushel that a man who had worked with them for years could labor under such a misapprehension—?

THE other day we congratulated one of the industry's leading cinematographers or what we considered to be an excellently-photographed production. "Thanks," he replied, with some embarrassment, "but it really wasn't my picture. I did the picture—but then after the front office had seen a rough cut, they changed the story and characterizations around and put the picture back in work for retakes and added scenes. I was busy on another assignment, so two other men handled these retakes, which constituted practically all the footage you saw at the preview. So it really wasn't mine, at all."

A few days later, we heard a similar story from a man in another studio, but with a different slant. He had completed a picture, and then another man had been called in "cold" to do the added scenes. And those added scenes were precisely the ones we had criticized adversely; they didn't match up with the rest of the picture in either technical quality or artistic concept.

Yet in each case, but one man's name appeared on the screen as director of photography. In one instance, he received credit for good work he did not do. In the other, he received censure for indifferent work for which he was not in the least responsible.

Of course, as long as there are credits and only a limited amount of title-space and footage in which to present them, there will always be some inequalities in crediting. But in instances like these—and they're by no means unusual or isolated—it seems grossly unfair to all concerned.

Besides, isn't it possible that the picture itself might benefit if one man could plan its photographic treatment and follow it through from start to finish?

WARTIME restrictions are tending to limit the size and content of nearly all magazines today. It is entirely possible that further restrictions will eventually call for further trimming. Therefore we would greatly appreciate hearing from our readers what features *The American Cinematographer* they like best, and which ones they like least, and could most easily do without. That information will help us in our effort to give our readers the best possible magazine every month, no matter what unexpected problems and restrictions may lie ahead.

A.S.C. on Parade

There's lots of excitement in the household of **Elmer G. Dyer, A.S.C.**, these days. "Elmer the Great" is in the process of being commissioned a major in the U. S. Army Air Force—which will make him the Senior Officer on the A.S.C. military list—and daughter **Gloria** is getting married January 7th. Mrs. Dyer reports things are more than a little hectic around the La Jolla Avenue address, what with **Elmer** marching up and down one side of the hall practicing his military manners, and **Gloria** rehearsing the Wedding March on the other—! Here's good wishes to both the bride-to-be and the major-to-be.

★

And **Clyde De Vinna, A.S.C.**, is off for foreign parts as **Captain De Vinna** of the U. S. Marine Corps. Considering the traditional rivalry between sailors and marines, wonder what **Clyde**, who in 1912 was a sailor-radioman on the flagship of the U. S. Asiatic Squadron, thinks now he's a leatherneck—? Anyway, with Lieutenant **Henry Freulich, A.S.C.**, **U.S.M.C.**, and **Captain De Vinna, A.S.C.**, **U.S.M.C.**, both in active service, there's plenty of evidence that the Marine Corps knows how to pick men who can keep the photographic situation well in hand!

★

A cheery Christmas-card from **Capt. Art Lloyd, A.S.C.**, of the Signal Corps, informs us that he's now directing, rather than photographing, training films for the Army. A fine step in the right direction, we'd say, and may there be many more of our uniformed A.S.C.-ers given similar assignments. Even though he's not officially behind the camera any more, **Capt. Art** reports he "just can't resist stealing his last look through the little peep-hole before shooting!"

★

Ted McCord, A.S.C., looked in hurriedly the other day to tell use he's now **Captain McCord** of the Army Air Force. Unfortunately **Ye Ed** was out, so we couldn't "mug him" for this page, but we're hoping for another chance, especially since **Ted**, in uniform, made such an impression on our office staff! **Ted** marched directly off to war from the Warner Bros'. set where he was directing the photography of "Action in the North Atlantic." **Tony Gaudio, A.S.C.**, took over for him.

★

On another type of what our British cousins call "National Service" is **John L. Herrman, A.S.C.**, **F.R.P.S.**, **F.R.S.A.**, etc., who has just been promoted from Second Lieutenant to First Lieutenant in the Civil Air Patrol squadron at New Orleans. In the process, he switches assignments from Squadron Photographic Officer to Squadron Public Relations Officer.

Another quick switch in camera assignments occurred on the set of Paramount's Technicolor "Dixie." Director of Photography **Billy Mellor, A.S.C.**, was commissioned as **First Lieutenant Mellor** of the Army's Signal Corps. They tell us he was whisked off so swiftly to an Eastern station that he was 500 miles on his way before the camera slowed down after his last "take!" Meanwhile, **Karl Struss, A.S.C.**, takes over to finish the picture.

★

Another quick change from civvies to uniform was made by **Jack Greenhalgh, A.S.C.** Only minutes after he finished directing the photography of that big independent opus, "The Hangman," he was in khaki as **First Lieutenant Greenhalgh** of the Army Air Force.

★

Ben Reynolds, A.S.C., is also putting his skill to work for Uncle Sam. As you probably didn't know (we didn't) **Ben** studied electrical engineering in his youthful days before he decided to devote his talents to cinematography. Today, between picture assignments, he's putting that skill to work in charge of some of the trickiest and most vital electrical mechanisms at a California shipyard. We understand there are only two men in the plant capable of making that particular machine say "uncle."

★

Last time we saw **Byron Haskin, A.S.C.**, he was more than a little warm under the collar. Up to his ears in work directing a special-effects second unit on "Action in the North Atlantic," that day, en route to the studio chauffeuring his share-the-ride group in his big Oldsmobile, **Bun** ran out of gas—!

★

In that connection, Ford-owner **Karl Freund, A.S.C.**, has the laugh on a lot of his fellow cinematographers who are blessed (?) with big, snazzy buggies which can't deliver a fraction of the "average" 15 miles per gallon the gas-rationing system is based on.

★

Did you ever watch **Arthur Miller, A.S.C.**, while engrossed in a telephone conversation? He's an unusually adept "doodler."

★

And did you ever hear about the time **Victor Milner, A.S.C.**, was doing an NBC broadcast and in quoting his director's remarks while watching that day's rushes, inadvertently let off with a nice, juicy cussword—?

★

Joe Ruttenberg, A.S.C., draws the camera assignment to MGM's "Madame Curie."

★

Out at Universal, **John W. Boyle, A.S.C.**, is assigned to direct the photography of "Good Morning, Judge."



We ought to caption this picture, snapped recently in the Paramount commissary, "Beauty and Brains," or something like that. The left-to-right identification (if you need any) shows this chatty luncheon-group consists of **Camera Chief C. Roy Hunter**, **Ingrid Bergman**, **Karl Struss, A.S.C.** and fashion-designer **Edith Head**.

★

With transportation what it is these days, **Milton Krasner, A.S.C.**, is a lucky fellow. He got back from the Texas location of "We've Never Been Licked" just a matter of hours before the press preview of "Arabian Nights," his first—and very swell—venture into Technicolor.

★

Fred Jackman, Jr., A.S.C., started another opus for Pine-Thomas, "Alaska Highway," the day after Christmas, going on location near Reno for the opening scenes.

★

Lunching at Warners' the other day, it was nice to see **Merritt Gerstad, A.S.C.**, drop into the chair opposite us. He's working out there on some of the dance numbers for "Thank Your Lucky Stars," while **Arthur Edeson, A.S.C.**, directs the photography of the story sequences.

★

Committees handling this year's Academy Awards for Photography include **Ray Wilkinson**, Chairman; **John Arnold, A.S.C.**; **Charles Clarke, A.S.C.**; **Bob De Grasse, A.S.C.**; **Arthur Edeson, A.S.C.**; **Fred Gage, A.S.C.**; **Merritt Gerstad, A.S.C.**; **Ernest Haller, A.S.C.**; **C. Roy Hunter, A.S.C.**; **Milton Krasner, A.S.C.**; **E. B. McGreal, A.S.C.**; **Arthur Miller, A.S.C.**; **Ernest Miller, A.S.C.**; **Victor Milner, A.S.C.**; **L. Wm. O'Connell, A.S.C.**; **Robert Planck, A.S.C.**; **Charles Rosher, A.S.C.**; **Joe Ruttenberg, A.S.C.**; **Karl Struss, A.S.C.**; **Mack Stengler, A.S.C.**; **Ted Tetzlaff, A.S.C.**; **Leo Tover, A.S.C.**; **Charles Van Enger, A.S.C.**; and **Joseph Walker, A.S.C.**

★

Special-effects "Oscars" are being handled by **Farciot Edouart, A.S.C.**, Chairman; **Lionel Banks**; **McClure Capps**; **Jack Cosgrove**; **John Fulton, A.S.C.**; **Arnold Gillespie**; **Byron Haskin, A.S.C.**; **Russell Kimball**; **Louis Mesenkov**; **Fred Sersen**; **Hal Shaw**; **James Stewart**; **S. J. Twining**; and **Vernon Walker, A.S.C.**

PHOTOGRAPHY OF THE MONTH

CASABLANCA

Warner Bros.' Production.

Director of Photography: Arthur Edeson, A.S.C.

Special Effects: Willard Van Enger, A.S.C.

We don't know whether "Casablanca" will receive a Los Angeles release in time to be eligible for this year's Academy Awards, but it deserves to, for Arthur Edeson, A.S.C., has given it a photographic mounting of genuinely Academy Award calibre. He has made many fine pictures, but this is without doubt the finest work he has done in many years, if not, indeed, the peak achievement of his career.

Edeson's attitude on being assigned to a picture is to hold himself in check if there is any danger that over-pictorial photography might overshadow a story or acting which are on the weak side. But in "Casablanca" he has a picture that is a real cameraman's delight. It has a strongly dramatic and very topical story, with equally strong acting performances. The locale is exotic, and the sets that serve as a background for the melodramatic action are in themselves an invitation to pictorialism. There is nothing to inhibit a cinematographer of Edeson's calibre from "going to town" photographically.

He does precisely that. His camera brings "Casablanca" to the screen with a lavishly pictorial touch which challenges description. Every scene is a pictorial delight of the type which merits that badly-overworked adjective "rich" as regards composition, tonal values and lighting. In addition, his visual treatment is perfectly keyed to the infinitely varying dramatic moods of the action. All told, it's the sort of photography we've seen all too little of during the past year or so during which the emphasis generally has been on harsh realism and *f:64* definition. The last picture we can compare it to was "Rebecca," which, it will be remembered, didn't do at all badly for its cinematographer at Oscar-time.

The special-effects camerawork contributed by Willard Van Enger, A.S.C., is on a par with Edeson's production camerawork. The montages, credited to Don Siegel and James Leicester are also uncommonly good, and there's a great deal to be said for the sets by Carl Jules Weyl and for Max Steiner's musical score.

But we won't try to describe "Casablanca." You'd better see it for yourself and give yourself the pleasure of enjoying one of the year's finest photographic achievements.

ARABIAN NIGHTS

Walter Wanger - Universal Production
(Technicolor)

Directors of Photography: Milton Krasner, A.S.C., Capt. William B. Skall, A.S.C., and W. Howard Green, A.S.C.

This is Technicolor fantasy at its finest, and seems a sure contender for Academy honors in the color classification. As Milton Krasner's first venture into Technicolor camerawork, it marks an important forward step in the career of this rising young cinematographer.

Too much film fantasy has gone wide of the mark because in one way or another it lacked the imagination which is an essential in fantasy. "Arabian Nights" avoids this pitfall. With the possible exception of some of the comedy relief, there is imagination reflected in every frame. This is especially true of the technical treatment, in which close collaboration between the three directors of photography and production designers Jack Otterson and Alexander Golitzen makes the production unusually noteworthy.

A significant factor in this is the way five key creators have worked together to wring the maximum production value from an unbelievable minimum of actual physical resources and expenditure. For the first time in a production of this type the people responsible for the film's visual mounting have taken advantage of the fact that these story-book Arabians were in reality not city-dwellers but a desert people. The majority of the action, therefore, is played not against a background of spectacular Moslem cities, but against the picturesque—and inexpensive—tents of the desert-dweller, cleverly enhanced by the use of matte-shots which very pictorially fill in areas which might otherwise have necessitated expensive construction or location trips. Some of these matte-shots are excellent; others more than hint that the special-effects staff would have benefited by opportunity for more extensive tests of color matching.

The actual "production" camerawork and lightings are of outstanding pictorial quality. Instead of being conscious of the economical physical production facilities, you are instead delighted by a visual impression of richness and, as Kipling put it, "more-than-Oriental-splendour." Scene after scene is a pictorial delight. Indeed, we could name plenty of more highly-budgeted Technicolor films which gave far less of an impression of lavishness.

Krasner's Technicolor portraiture of his players is another outstanding asset. Of course his treatment of Maria Montez easily takes first place, but none of the rest of the cast are by any means slighted. Incidentally, one can play an interesting little game with himself during the early reels, trying to identify the various familiar male players behind their Arabian whiskers—!

Yet another feature of "Arabian Nights" is Frank Skinner's excellent musical score which, unless our memory fails us, makes eloquent use of themes from Rimsky-Korsakoff's "Scheherazade."

PALM BEACH STORY

Paramount Production.

Director of Photography: Victor Milner, A.S.C.

Victor Milner is at his best in photographing a polished comedy-drama like this one—and in this one he has turned out one of the most polished jobs of decorative high-key photography we've seen come from his camera in some time. It's more than a little reminiscent of the long succession of Lubitsch bedroom farce-comedies that flowed so delightfully from the Milner camera. In other words, Milner at his best.

Milner always deals excellently with his players. Claudette Colbert, for instance, hasn't been seen to better advantage in a long while. Behind the players, his strongly decorative set-lightings are another visual pleasure. The sets, incidentally, are something to look at with a bit of reminiscent envy, for "Palm Beach Story" is one of the impressive back-log of completed productions Paramount has on its shelves, and was produced sufficiently long ago so that it was in work well before today's "ceiling" restrictions clamped down on the building of lavish sets.

The special-effects work is good, but in some respects below par for the standard one expects of Farciot Edouart, A.S.C., and his efficient staff.

STAND BY FOR ACTION

Metro-Goldwyn-Mayer Production.

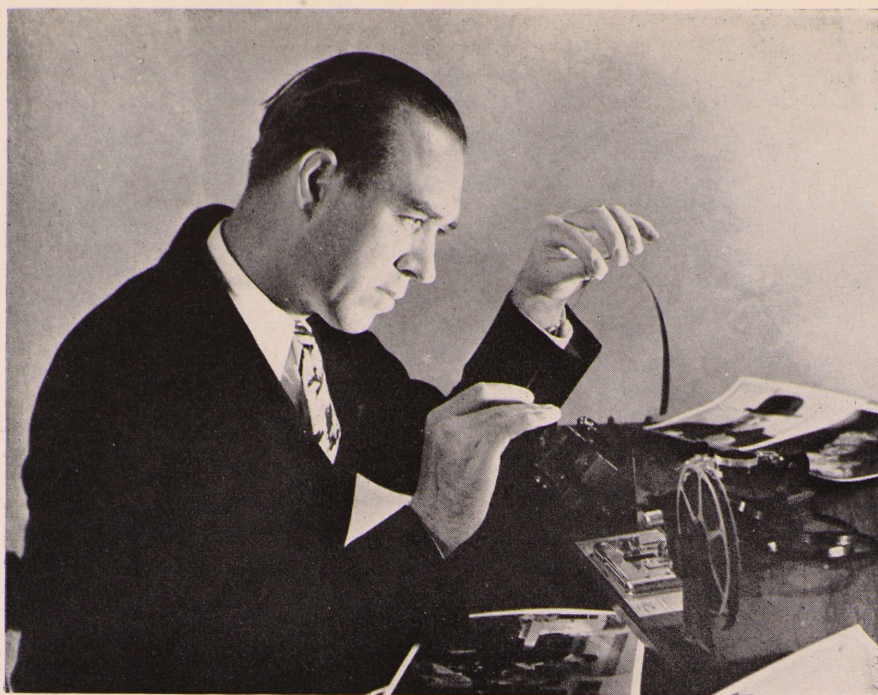
Director of Photography: Charles Rosher, A.S.C.

Though the story is rather too heavily freighted with obvious hokum, Charles Rosher, A.S.C., and MGM's special-effects staff have made "Stand By For Action" a picture that's worth seeing.

Rosher's contribution maintains the easy smoothness customarily associated with his name, though the locale and action offer him little enough opportunity for the pictorial type of camerawork at which he excels. His treatment of the players is characteristically excellent, tending toward virile portrait-lightings, and his effect-lightings in the later sequences are both realistic and dramatically effective.

The real highlight of the picture to this reviewer, however, is the surpassing excellence of the miniature scenes which are credited to Arnold Gillespie and Don Jahraus, the latter long known as perhaps the industry's foremost specialist in marine sets and miniatures.

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Make A Prize-Winning Film From Vacation "Left-Overs"

By JOHN E. WALTER

Past President, Los Angeles 8mm. Club

THERE is much wailing and gnashing of teeth, these gasless and rubberless days, on the part of those ardent amateurs who shoot vacation pictures. No longer can he (or she) load up the car with camping equipment, camera and film and come back two weeks or so later, broke but happy by reason of many reels of film exposed in numerous National Parks while putting 3000 miles on the speedometer. While those days are not gone forever, they are slightly postponed, to say the least.

Such a breathing-spell can be used to great advantage by most of us. For instance, who does not have some reels of film which have never been edited or titled, or which need more cutting to quicken their tempo and thereby make them into a real picture? How many of you come in the class of amateurs who shoot roll after roll but seldom if ever title or edit them? Do a little more than just splice your returned rolls together on a larger reel: work on them these nights when gas is low and build yourself a personal library of pictures of which you can be proud.

Dyed-in-the-wool takers of vacation pictures, without doubt, have an idea in the back of their minds that they could shoot a pip of a scenario picture if they

just had a little time to do it. Well, you have the time to figure it out now!

Without going anywhere, and with the expenditure of only a little new film, you can turn out something new in the line of vacation pictures. It will take some ingenuity and thought, but the results will be worth it. All of us have a collection of pot-shots, 40 ft. on one short trip, 60 ft. or so on another, but have never been able to combine them into anything except just scenery. No plot to hold them together . . . no gags to lend a little humor . . . and nothing to explain why or where it was taken.

Take a bunch of these shots and put them together along the lines of the following script and see what you think of the results. I tried it on some of my own "left-overs"—and it did well enough to win first prize in my club's annual contest. Yes, it surprised me, too!

Main Title:

THOSE WERE THE DAYS

By

Scene 1: Husband at table, wife brings in piece of pie for each of them and sits down.

Scene 2: Wife pours cup of coffee for each, emptying pot in her cup.

Scene 3: Husband takes heaping spoon of sugar and starts to put it in his

cup. Wife puts out hand and stops him. He pours most of it back and reluctantly puts a little in his cup.

(Close-up of sugar bowl and spoon is effective.)

Scene 4: Husband and wife take several bites of pie. Wife looks at him and says:

Title: "Do we have enough gas for a trip Sunday?"

Scene 5: He gets gas ration book from pocket, looks at it and then looks at wife, shaking his head regretfully.

Scene 6: (Change camera position.) Husband looks at wife and says:

Title: "Remember our trip up San Gabriel Canyon . . . ?"

(a) Title fade out and fade in on opening scene of this trip.

(b) Last scene fade out and fade in on

Scene 7: Husband and wife still at table, pie gone and drinking last of coffee in cups.

Scene 8: He holds out cup for more coffee.

Scene 9: (Close-up) Wife shakes her head and says:

Title: "Can't buy any more."

Scene 10: Wife shows empty Silex pot.

Scene 11: Husband puts cup down and both get up with dishes, start out of picture.

Scene 12: Shot of husband and wife washing and wiping dishes. Wife turns to husband and says:

Title: "And the fun we had at Palm Springs . . ."

(a) Title fade-out and fade in on opening scene.

(b) Closing scene fade-out and fade in on

Scene 13: Husband and wife finishing dishes. Wife takes off and hangs up apron. Husband puts dish-towel on rack. Both walk out of scene.

Scene 14: Husband and wife walk into living-room, pick up evening paper and start to read it.

Scene 15: He lets paper drop slowly into lap, looks into space a moment, turns to wife and says:

Title "And the fun we had at Big Bear and Cedar Lake . . ."

(a) Title fade-out and fade in on opening scene.

(b) Last scene fade-out and fade in on

Scene 16: Husband and wife still sitting in living-room, holding evening papers and looking sad.

Scene 17: He folds up paper and looks around room for something to do. Sees record cabinet. Gets up.

Scene 18: Husband walks to cabinet and takes out record album.

Scene 19: He sits down again and takes a number of records out. Starts to get up with records in hand.

Scene 20: Wife stops him, so he sits down again.

Scene 21: Wife points at foot, which she lifts from floor, and says:

Title: "We've still got leather. Let's go for a walk!"

Scene 22: Husband and wife get up and put on coats.

Scene 23: He opens front door and both walk out.

(Continued on Page 30)



A CAMERA ON SKIIS

By W. G. CAMPBELL BOSCO

"FOCUS ON SKIS" is a 16 mm. Kodachrome motion picture produced by an amateur cinematographer and ski enthusiast which is noteworthy in several respects. It was shown recently, among other places, at the Royce Hall Auditorium on the campus of U.C.L.A., under the auspices of the University of California Extension Division, where it was extremely well received by an audience of five or six hundred people who paid to get in to see it. For an amateur picture that in itself is of more than passing interest. Furthermore, in Boston, which, we understand, is full of ski enthusiasts, the picture grossed \$2,000 in one night for the benefit of the Red Cross.

The producer of the picture is Dr. Frank H. Howard, who, when he is not travelling about the country with his pictures, acting as president of the California Ski Association, coaching championship-caliber ski teams and producing 16mm. pictures, is a dentist in San Rafael, California. He is a personable chap with an infectious enthusiasm for his hobbies. The manner in which he gets his idea over and achieves his purpose through the medium of 16 mm. Kodachrome is, we believe, the thing that is of most interest to the readers of this magazine.

Dr. Howard is frank to admit that he is a skier first and a photographer second. As a skier he is one of that small band of men who have been largely responsible for the tremendous growth in popularity of skiing in the United States. Ten years ago skiing was a "foreign" sport unknown and untried by most Americans, whose only conception of the sport was gained from newsreel shots of foolhardy young men leaping out into space. Today, skiing is a ranking national sport with devotees numbered in the hundreds of thousands. Winter resorts and picturesque skiing lodges have

been built to accommodate these enthusiasts, and vast areas on the roof of America, hitherto unknown and unappreciated by the public, have been opened up.

Dr. Howard with his motion pictures can take his full share of credit for having brought about this widespread acceptance, with all its attendant benefits, in such a relatively short time. His color motion pictures do more to quicken the appetite and sell the idea of skiing to the potential skier than anything else could hope to do.

Dr. Howard takes his camera into a winter wonderland in which the non-skiing cameraman, for obvious reasons, must remain virtually immobile. This skiing doctor comes back with snow scenes of enchanting beauty and action pictures of skiing events that are frequently breathtakingly thrilling. He also has scenes showing how simple it is for the beginner to "catch on," and shots of skiers relaxing, in their own peculiar way, after the day's skiing is done.

According to Dr. Howard, (and his pictures seem to prove it), all good skiers relax in the approved manner by drinking beer in a lodge with quaint Tyrolean atmosphere while occasionally squaring off in spirited dances like the Schottische, the Polka and another one that would be unpronounceable to a non-skier, anyway. These dances are always accompanied by energetic, jolly-looking musicians who look as though they must have stepped right from the bas-relief of a Bavarian beer mug.

Well, after seeing it you just want to go out, join the nearest ski-club and get right in on the whole exhilarating, fascinating business.

Dr. Howard makes one of his snow epics each year. "Focus on Skis" is the latest and includes scenes taken at almost every major winter resort in the

Some of Dr. Howard's spectacular skii shots. Notice (below) shots made on locations which were inaccessible to a non-skier.

United States and Eastern Canada. Championship skiing, filmed in action at every major tournament over the country, including the National Ski Championship at Yosemite, the Western Ski Championship at Sun Valley, the Mid-Summer Volcano Race at Mount Lassen and the Silver Belt Trophy Race at the Sugar Bowl, give the picture an air of skiing authority. In these events the greatest skii performers in the country and in the world are captured for the screen in a manner completely satisfactory.

And all this despite the fact that shooting conditions were not always what a cameraman might ask for. Two of the events, in fact, were filmed during blizzards — and they were excellently done.

But where Dr. Howard really shines as a snow cameraman is in his filming of informal, non-competitive skiing. Here, with an opportunity to pick his locations and lighting, he turns in some of the best skiing sequences in color this reviewer has seen. While the non-skiing cameraman is necessarily rooted to one spot in the deep snow country, and

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Editing For Balance

By WALLACE CAMPBELL

Revised - Oct 53 A.C.

DO YOU give the job of editing your films the same careful consideration that you give all the preceding phases of your picture-making? Or do you consider editing merely a necessary chore that must be performed as hurriedly as possible in order to get the picture on the screen?

Unfortunately, too many cineamateurs seem to work on the theory that editing is a matter of cutting out the bad frames that mark each camera start, and splicing consecutive scenes together. Yet the proper handling of a picture in the cutting-room is as important to its ultimate success as the proper direction, scripting or camera-work.

The professionals have proven this often enough. All things being equal, poor treatment of a film at the hands of a film-editor can turn what by other standards might be a good picture into something very mediocre. On the other hand, a film-editor with a good sense of continuity and tempo can take what might be a mediocre picture and by his deftness turn out a smooth, interest-sustaining vehicle.

There aren't many people who can take a motion picture apart and criticize as a separate contribution the editing of a film in the same sense that they can the acting or the camerawork, but when you see a motion picture that

unreels smoothly, that puts emphasis in the right places and points up the highlight of the story, whatever it is, you can be sure that it is a good editing job.

The same sense of showmanship that is necessary to good direction, writing, scripting or camerawork is prerequisite for an equally effective cutting job. And one of the first rules is to learn when to stop. When to stop showing the picturesque or expensive establishing 'production' shot and cut to some more intimate business; when to cut away from the 'intimate business' to a 'reaction' shot; when to cut the take on a humorous or dramatic expression or action to get the full benefit of showmanlike punch out of it.

The difference between an effective or an ineffective cut can in many instances be only a few frames. Especially if you are trying to build tempo, every unnecessary frame after a given bit of business or expression has registered is a drag on a market and helping to defeat your purpose. This rule of knowing when to stop seems to be one that many cineamateurs would do well to learn and profit by. So many of them just don't want to throw away any film. They want to include every photographically perfect frame they have exposed. But they do so only at the expense of jeop-

ardizing the entertainment value of the picture as a whole.

Don't be afraid to shorten a scene. No one will feel as sentimental about it as the fellow who shot it, anyway. Make your moving pictures *move*. When you have made your point, change the subject, or at least the angle of approach.

There is no excuse for 'drag' in a motion picture. As a medium it offers the utmost flexibility and the greatest play for the imagination. Even the most beautiful land and seascapes in color can only hope to sustain interest up to a point. And that point can be passed sooner than you think. Don't be afraid to cut them as soon as they have had time to register on the screen. Remember that the inclusion of some live, animate object or objects invariably adds interest as well as proportion and perspective.

Another thing well worth remembering when you are bent on filming purely scenic movies is that every landscape or vista is compounded of elements that are invariably worthy of closer shots. The trees that formed the mass in the composition of the landscape will offer a lot of interest for closer shots; and so will the shrubs, wildflowers or grasses that contribute to the scene as a whole individually offer opportunities for imaginative camerawork—and give the editor something to work with, as well. The inclusion of such shots does so much to add to the interest-value of the picture. Particularly if a judicious use is made of subtitles that are informative, in an informal and inoffensive manner, and in the mood of the picture.

Especially in these days of gasoline rationing the cineamateur will often realize, when he sits down to edit his film, that the pictures he made on location could stand a few close-ups as inserts. Shots of himself, perhaps, or members of his family. But the fact that it is impossible or inconvenient to return to that same location need not prevent him getting these inserts. If it's outdoor stuff, he might do well to remember the now almost immortal words of that early Hollywood impresario who said, "A tree is a tree and a rock is a rock. Shoot it in Griffith Park." With a little imagination he can uncork enough new shots against conveniently "close to home" backgrounds to add new zest to his opus.

When filming action it is generally considered good policy to shoot the entire action in order to achieve smoothness and naturalness. But it isn't necessary to include the entire cycle of the action in the finally edited reel in the same form as you filmed it. For example, if you go from a long-shot to a closer angle on action where, say, someone is shown seating himself in a chair, you can cut the long-shot just as he starts to fold himself down into the chair, and cut in the closer shot just as he's getting settled, and you'll get a much smoother flow of movement on

(Continued on Page 29)

WARTIME home moviemaking seems to be distinguished by an increasing list of things we can't do. We can't get gasoline enough to take us on the moviemaking weekend and holiday trips of the past. Even if we could, we couldn't do much shooting as most of us can only get a roll or two of film at a time, anyway. Decidedly, the accent seems to be on the *home* part of home movies, and on shooting that consumes a minimum amount of film footage, besides.

There's one type of moviemaking that just fits this description . . . and it has the added advantage of giving you what for all practical purposes amounts to new films for old ones.

It is title-making. And how most of our films need it—even if they've been laid aside years ago as completely edited and titled!

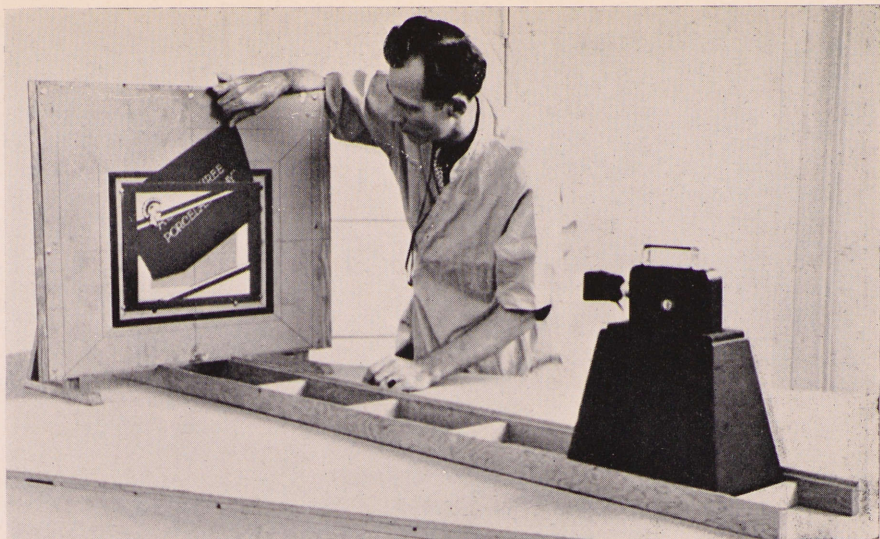
Get some of your old pictures out and look at them again. Unless you're the 99th moviemaker out of every hundred who has already formed the habit of lavishing as much care on title-making as on making the picture itself, you'll probably find plenty of spare-time employment in re-planning and re-shooting the titles you once thought were quite adequate.

That black-and-white vacation film of several years ago, for example: you made the titles for it on cheap positive "title-film," didn't you, maybe using typewritten title-cards? Probably you missed here and there on exposure, and the development wasn't very uniform, anyway, so they're streaky and hard to read. Don't you think they could be improved? That Kodachrome picture where you used titles made on tinted-base positive: wouldn't it be a lot better if you dressed it up with Kodachrome titles, too? And—be honest, now!—are you really satisfied with the wording of those titles you made two, three, or five years ago? Now that you aren't quite so close to that trip and what happened on it, don't you think that maybe those titles left a little bit too much to the imagination—? Wouldn't a fuller explanation make the picture more enjoyable?

If the answer is yes, your "what to shoot" problems will be settled for the next several months, at least, for title-making is something you can do a little at a time, as you find you have the spare moments to do it in.

The starting-point, to most people, would be to be sure you've got a satisfactory titler. But personally, I think its more logical to work the other way around: what sort of title-cards are you going to be using? The answer to that will have more to do with what type of titler you ought to use, than anything else.

Nature has equipped some of us with a knack for doing attractive hand-lettering. If you've got it, but aren't sure, practice and training will bring it out. I know several amateurs who found all that was needed to give their title-lettering talent an almost professional polish was to spend a few evenings in a



Make Your Old Films New By Making Better Titles

By PHIL TANNURA, A.S.C.

class in show-card lettering at an evening adult high-school.

On the other hand, there are some of us who just can't do that sort of thing. It's nothing to be ashamed of; they just aren't built that way. For them, if they can't find some artistically-inclined friend capable of helping out by lettering title-cards, I'd suggest that printed titles are the best answer. It isn't too hard, in most towns, to find a small printing shop where they'll be glad to run you off a few impressions of each title, using white or silver ink on black or dark-colored paper. It shouldn't cost much, either; one of my friends, for example, found a shop like that—one which luckily more or less specialized in printing Christmas cards—where he had some thirty or forty titles printed for a Kodachrome picture, using left-over bits of colored paper and colored ink, at a cost of about five dollars.

With that point settled, you can begin to think about the titler. This is really governed by the type of title-cards you use. If you use hand-lettered ones, you'll do a lot better to use pretty good-sized title-cards. I'd suggest at least 6x8 inches in size, and bigger if possible; professional title-cards often measure 18x24 or larger. The larger size, you see, gives you a chance to make your lettering larger, and in the larger letters, minor irregularities in your lettering craftsmanship won't stand out so glaringly as they will on smaller letters.

On the other hand, if you are going to

use printed titles, you can do quite well with small title-cards, including the "business-card" size used in most of the inexpensive commercial titlers. I've seen plenty of really first-class titles turned out this way.

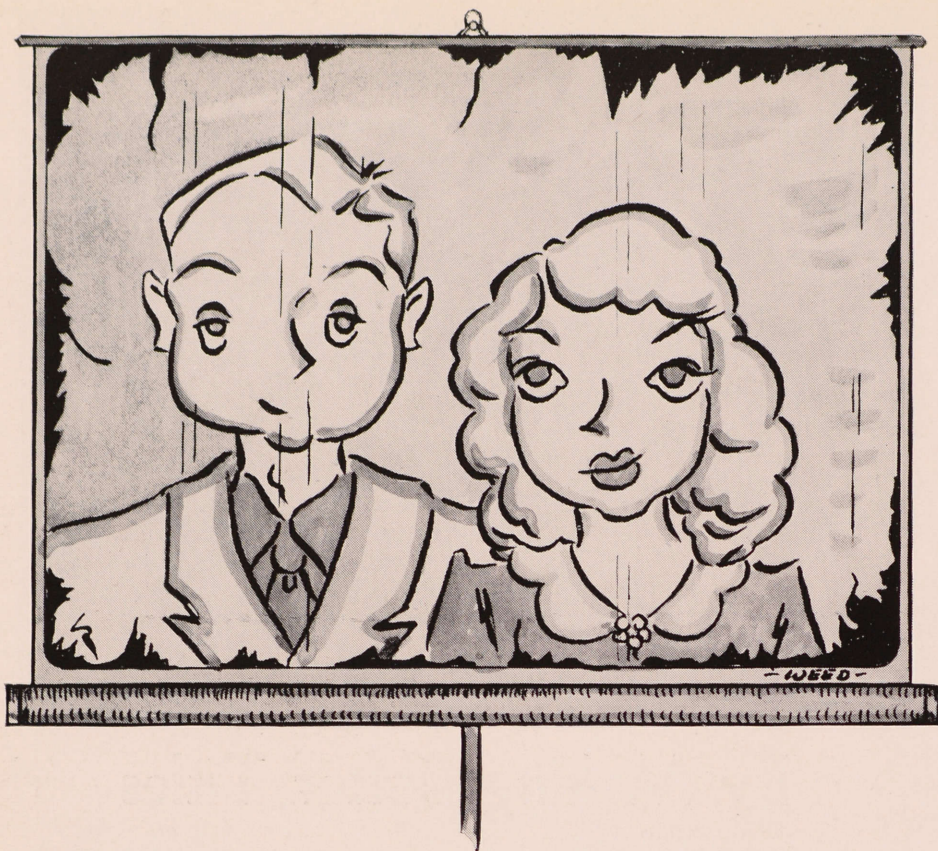
But the equipment you use to make your titles—so long as it is good and accurately aligned—doesn't matter half so much as the care and ingenuity you put to work in planning and photographing them.

First of all, be sure that the title is legible; keep away from fancy lettering, especially styles with thin lines or decorative curley cues. They may look nice on the title-card, but they won't show up half so well on the screen (especially in 8mm.) as a severely simple block letter with fairly heavy lines.

Next, be sure that the lettering is properly centered in your frame. The spaces above and below the lettering should be pretty nearly equal to each other, and so should the spacing at the two sides. Be sure and allow plenty of margin all around, especially in 8mm., since different "eight" projectors center the film differently, and unless you allow ample margin you may find that titles (usually at one side) cut off when you run your film on somebody else's projector.

Be sure your camera is accurately aligned in the titler each time, too. This is especially important in some of the cheaper small titlers, which don't make

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Does Your Projector Grow Whiskers?

By F. W. PRATT, A.A.C.S.

SOONER or later if you don't watch out for them, whiskers are going to give you a headache. They are very annoying to users of 16mm. equipment, and exasperating to the 8mm. user. They can ruin film faster by their presence than almost any other minor camera or projector fault.

Perhaps I will make myself a little clearer if I explain that whiskers are those little pieces of lint or dust that lodge in the aperture plate of cameras and project, there to remain unnoticed

until they have done their beastly damage.

Whiskers have a particular fondness for sticking at the bottom of the camera aperture (the top of the picture area, since the scene is inverted), where on the finished screened picture they can dangle down and look something like hanging moss.

Whiskers are most serious on 8mm. film because the entire picture area is so small that one good hunk of dust can cover up most of the format. When this happens one is apt to feel especially bad over the spoiled film, for except for the dust images the scene may be perfect, and when projecting it you have the feel-

ing that it should be easy to push the dust away and see what is behind it. But of course nothing can be done to remove the dust image without removing the picture, too.

Whiskers occur most often in the projector, but here they are not serious. While they may mar the projection of a single reel they may be easily removed before subsequent projections.

Whiskers cause untold trouble in film laboratories, particularly in the printing operations, where a speck of dust or lint lodged in the aperture of a printer will ruin the whole roll of film. As a matter of fact, it is the danger of dust lodging on the film and aperture plate of printers which makes the negative-positive system so difficult for 16mm. films and practically impossible for 8mm. With the negative-positive system the whiskers appear white on the screen and are much more annoying than those on ordinary reversal film, which appear black.

Apparently it is possible to build up a tolerance for a moss-bordered picture since it is not uncommon to be shown a great series of home movies in which both the camera aperture and projector have become well padded with lint. Perhaps some persons might even feel that the informal deckled edge effect may have a certain charm. However, for those of us who prefer clean, sharp borders, there are two implements which should be a part of our movie kit and if used will keep whisker trouble down to a minimum.

The first is a camel's-hair brush such as those used for water colors. The second is a small rubber syringe like those commonly used by ear doctors. The camel's hair brush is particularly useful in cleaning our camera apertures, and so one should be kept in the camera case at all times and used each time a new roll is threaded into the camera. The syringe will also work well to blow the dirt out of the aperture if it has not become too firmly lodged, but since the syringe is a little larger than the brush it is not so easy to carry around in the camera case. However, it is the best little camera tool to use during projection inasmuch as nine times out of ten it is possible to blow out a speck of dirt while the projector is running rather than have to wait until the reel is over.

In both camera and projector the whisker problem is exaggerated if the film guides and aperture plates are allowed to become soaked with oil. So in addition to dusting out the aperture plates, it is necessary to wipe their surfaces free from oil and also to remove any accumulation of emulsion. The handiest tool to remove emulsion from the film gate is made from the wooden handle of the aperture brush, simply by whittling it to a chisel-like point. The wooden end will remove emulsion easily while in no way damaging the surface of the film guides, and is very much safer than any form of metal tool, however soft. **END.**

* Reprinted through courtesy of "Movie News," the official organ of the Australian Amateur Cine Society, of which Mr. Pratt is Hon. Editor.

AMONG THE MOVIE CLUBS

Share the Films!

With gasoline rationing, film shortages and other wartime restrictions tending increasingly to limit the making of new amateur films, we'd like to point out to Movie Club program chairmen that there exists a vast reservoir of interesting and instructive program material in films already made. Sure, you and your group have probably seen most of the films available from your own membership—but how about those of your fellow amateurs elsewhere? Their films will seem new to your group, and your films will be new to them. In addition, we can all learn from studying the way the other fellow tackles his picture subjects and assembles them.

So—why not a "Share-the-film Club?"

We will gladly list on this page the title, footage, etc., of films that any clubs or their members may have available for exchange with clubs in other localities, together with the names and addresses of the individuals or club officers from whom these films may be obtained.

In addition, we invite all club program chairmen and other officers to make use of THE AMERICAN CINEMATOGRAPHER'S extensive library of prize-winning films from our various International Amateur Movie Contests. These films include some of the greatest amateur movies of all time—both 16mm. and 8mm.—and are available to recognized amateur movie clubs at no cost other than transportation to and from Hollywood. We'll gladly send a list of these films to anyone interested.

L. A. 8's Share the Ride

At the Annual Installation Banquet of the Los Angeles 8mm. Club, incoming Vice-President Irwin Dietz announced that the Club was organizing a Share-the-Ride plan by which members living in the same general direction from a meeting-place could share their cars going to and from meetings. With the Club's membership scattered over a twenty-mile radius, the plan is expected to prove of great value to the members and to the Club's activities.

Winners of the Club's 1942 Contest were announced by Honorary Member Bill Stull of THE AMERICAN CINEMATOGRAPHER. First place went to retiring President John E. Walter, with second place, and the Horton Trophy for the year's best vacation movie, went to former President Bill Wade. Incoming President Fred Evans captured third place, with Bill Millar, Joe Savel, Louise

Arbogast, Gertrude Millar and Irwin Dietz following.

LOUISE ARBOGAST, Secretary.

Tri-City Dines

December 17th saw the Third Annual Dinner Meeting of the Tri-City Cinema Club of Davenport, (Ia.), Rock Island and Moline (Ill.) Scheduled for the film fare of the evening was Ray Schmidt's "Western Coast," 300 feet 8mm. Kodachrome supplemented by 50 Kodachrome slides; "The Story of 4-H Club Work," by Paul Lane, 300 feet 16mm., a specialty documentary with the recorded voices of 45 club members; "Saskatchewan," 800 feet 16mm. Kodachrome filmed by Carroll Mitchener of the Minneapolis Cine Club, and awarded a prize by the National Film Board of Canada in 1941; and Eastman's "Cavalcade of Color."

WILLIS F. LATHROP,
Secretary-Treasurer.

Long Beach Elects

Elected to head the Long Beach Cinema Club during 1943 are Claude Evans, President; Mildred J. Caldwell, First Vice-President; Pat Rafferty, Second Vice-President; Lorin E. Smith, Secretary, and A. W. Nash, Treasurer. These new officers will be installed at the Club's Annual Banquet early in January, at which time the winners in the Club's 1942 Contest will also be announced.

PRUDENCE BRAKLOW,
Secretary.

Exchange Show for 8-16's

Scheduled for the December meeting of the 8-16 Movie Club of Philadelphia was "All These We Defend," a documentary film giving a pictorial demonstration of the Bill of Rights and what it means, made by Arthur Tucker of the Syracuse Movie Makers Association.

LEON MERROW.

"Doomsday" for Metro

Program for the December meeting of the Metropolitan Motion Picture Club of New York featured the International Prize-winner, "Doomsday," filmed by Ruth Stuart of Britain's Institute of Amateur Cinematographers, and loaned from the library of THE AMERICAN CINEMATOGRAPHER, in whose contest the film won the Grand Prize. Also to be shown were "Fair Enough," by John J. Klaber; "Linda," by Richard D. Fuller; "Days Afield," by Frank E. Gunnell, and a discussion on Kodachrome exposure, illustrated by Kodachrome slides, also by Member Gunnell.

ROBERT M. COLES, Secretary.

San Francisco Sees Solomons

The December meeting of the Cinema Club of San Francisco featured a showing of a feature-length Kodachrome film

of "A Trip Through the Solomon Islands," filmed before the war by C. E. Stahl, of San Francisco.

E. L. SARGENT, President.

Philadelphia Tries Music

A demonstration of the value of using recordings to accompany a silent movie was the scheduled highlight of the December meeting of the Philadelphia Cinema Club. Equipment was also scheduled to be available for a demonstration of making transcriptions, direct recording of sound-effects, voice, and music, as well as "dubbing" or re-recording.

On the screen the scheduled program included "Autumn Symphony," by W. W. Chambers; "Whozoo," by A. J. Hurth; "Vacation in Bermuda," and "Autumn in the Poconos," both by N. L. MacMorris.

The "Film Improvement Committee," which proved such a success at the November meeting when these six experienced cinefilming members analyzed four pictures shown and gave suggestions for their improvement, resulting in some of the best discussions ever heard on the Club's floor, was continued at the December meeting, and is to be continued as a feature of future meetings.

In addition, films to be considered for the Club's Annual Contest, which will be held in February, were to be shown at this meeting, and also at the January meeting.

ROBERT R. HENDERSON,
Secretary.

X-mas Movies for Chicago

Christmas movies were the subject of discussion at the December 16th meeting of the Chicago Cinema Club. Members Bianco, Burrs and Erickson showed their previously made Christmas stories on film, accompanied by appropriate music. Following the screening, these experts led a general discussion of the subject of Christmas movies and how to make them. Due to the holidays, the Club's usual meetings, scheduled for Dec. 23rd and Dec. 30th were cancelled, but after New Year's the Club is due to start out on its regular four-meeting-a-month schedule, beginning January 7th.

BARBARA HUBBARD.

Uncut-Film Contest for N. Y. 8's

The November meeting of the New York 8mm. Club had an unusually interesting contest when the \$10 prize offered by Joseph Hollywood was won by Victor Ancona, an absentee member who had just entered the U. S. Army. Ancona's film was untitled, but otherwise was determined to have all the features necessary for a good short. The judging committee, enthusiastically seconded by the members present, also gave hearty praise to a really comic and time-

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New Photographic Books

THE THEORY OF THE PHOTOGRAPHIC PROCESS

By C. E. Kenneth Mees, D.Sc., F.R.S., A.S.C. The Macmillan Co., New York, 1942, (\$12.00).

The student of photography will greatly appreciate the new book by America's foremost photochemist, Dr. C. E. K. Mees, on "The Theory of the Photographic Process."

The immense wealth of literature on the theoretical aspect of photography is scattered in periodicals published throughout the world and, therefore, not easily accessible to everyone.

It is true that the "Abridged Scientific Publications," put out yearly by the Eastman Kodak Company, the "Veröffentlichungen," by Agfa, which began to appear in 1928, and the "Proceedings" of the various international Congresses on Photography, have brought to the attention of the scientific public the accomplishments of the several great Research Laboratories. But outside of three monographs by the members of the Technical Staff of the Eastman Kodak Company, namely: "Theory of Development," by A. H. Neitz; the "Physics of the Developed Photographic Image," by F. E. Ross; and "Gelatin in Photography," by S. E. Sheppard, very little has appeared in coordinated book form on the theory of photographic processes. Dr. Mees' book, therefore, makes its appearance at a very opportune time.

Although this book is probably most valuable to the student of photographic chemistry, the chapters on Development, Sensitometry and Theory of Tone Reproduction will be very useful to the laboratory technician. The research worker will find illuminating the chapter on the Chemistry of Sensitizing and Desensitizing Dyes, although it is regrettable that the Chemistry of Color Couplers and Color Formers, which are the basis of the Kodacolor and the New Agfa Color Processes, have been very briefly sketched.

In spite of its size (over 1000 pages of text), this book covers the wide field in a rather concise arrangement. Nevertheless, Dr. Mees has succeeded in giving many important historical citations and a very extensive bibliography at the end of each chapter.

O. O. CECCARINI.

EXPOSURE METER MANUAL

General Electric Co., 1942. 98 pages. (\$1.00)

A really good, practical book on exposure meters, how they work and how they should be used, has been needed for a long time. General Electric's new "Exposure Meter Manual" is the first attempt we've seen to fill that need from the practical man's viewpoint. Coming at this time, it is particularly valuable, for since new exposure-meters will prob-

ably not be available to most civilians "for duration," it certainly behooves all of us to learn how to get the best out of whatever type of meter we may now possess.

The book very naturally deals primarily with the use of General Electric meters, but the majority of the basic principles it sets forth can very easily be adapted to guide you with almost any other type of meter you may be lucky enough to own. The writers also take pains to point out conditions under which a straight meter-reading may be erroneous, and how the meter should be used to correct for this. There is a wealth of practical data as to the use of the meter indoors and out, for metered synchro-sunlight flash shots, and as a means of measuring negative densities in the darkroom.

The basic fundamentals of how exposure affects the picture are well explained, as is the interesting question of how film speeds are determined. In this, the writers have been much kinder than might be expected to the various competing methods of film-speed determination, setting forth the principles and advantages of each quite dispassionately. It is to be regretted that they do not provide a table by which these various rating systems may be easily correlated. That data is of course available elsewhere, but it should be here.

Personally, we also regret that more space was not given to the peculiar problems of exposure-metering involved in professional and amateur cinematography, especially the professional use of the G-E meter as an incident-light meter for determining key-light values to which the rest of the lighting may be balanced either visually or by meter. This technique is one which should be of value to the amateur and semi-professional as well as to the studio professionals who evolved it.—W. S.

THE CAMERA POCKET PHOTO GUIDE

Compiled by the Editors of "The Camera" Magazine, Baltimore, 1942. (128 pages, \$1.00)

While intended primarily for the still photographer, with only incidental consideration of movies, this little book is one of the best of the pocket photo guides. It contains a surprising wealth of material, much of which can be adapted to moviemaking problems, presented partly in the form of tables, and partly in the form of concisely boiled-down text, supplemented by illustrations wherever necessary. Among the useful features are a very clever, illustrated section devoted to basic portrait lightings; an excellent and surprisingly simple filter chart which quickly "gets over" the basic action of any type of filter on any given colors; useful technical data on exposure-meters and their use, Photoflood and Photoflash (including a valu-

able table showing how many Photofloods of any given size can be used with a given line fusing); Kodachrome data and exposure guides, and specimen releases from models for pictures which may be used for commercial purposes or for reproduction. Another clever feature is that a renewable memo pad is included in the back cover of the book.

All told, while it's intended primarily for still photographers, we would urge amateur movie enthusiasts not to overlook it.—W. S.

16mm Business Films

FREIGHT YARD

Documentary, 710 feet 16mm. black-and-white, sound.

Presented and Produced by the New York Central System.

This is one of the most interesting 16mm. commercials we've screened in some time, and an excellent technical job. It deals with a little-known part of railroading—the operation of a big freight classification yard—and has a really worthwhile instructional value apart from its purely commercial value.

Made under the supervision of Frederick G. Beach, it tells its story completely, and is an excellent example of movie-making technique. While precise data is lacking, we're inclined to consider that much, if not all of the footage is 16mm. negative. Certainly, it shows what 16mm. negative, with proper laboratory handling, can do, for it gave first-class picture quality even when viewed on a large screen. The sound—also direct-16, we believe—is also excellent.

We have a few criticisms as to the film's construction, however. It is certainly to be regretted that conditions apparently didn't make it possible to keep the movement of the freight trains in the early and closing sequences more consistently in the same direction across the screen. We'd have liked, too, to have seen closer close-ups of some of the records in the freight office, and of the action of the tonnage computer. If possible, too, a better shot of two cuts of cars coming toward the camera and going to different sides of the Y-switch would have increased the effectiveness of that sequence. Even if traffic didn't permit this, it would seem that a little rearrangement of the existing cuts, separated perhaps by inserts of the towerman throwing his lever, and the switch-points changing, would achieve this result.

The musical score is interesting, but it seems to us the picture would be better if the music-volume were lowered during the narrated portions of the film.

FOR AMERICA WE SAVE

Educational, 1000 feet 16mm. black-and-white, sound.

Presented by Firestone Tire & Rubber Co. Produced by Jam-Handy.

This unusually timely picture on tire conservation is a typically smooth Jam-Handy job, apparently a reduction from 35mm. In general it is excellent, both in technique and treatment, and is, inci-

dentally, above average as reduction-prints go.

Our chief criticisms are that in some of the animations used to show the effects of mistreatment on a tire, the action is so exaggerated that to some audiences it may produce a laugh where it should evoke a thought, and that the voices of the actors in the several sync dialog sequences seem a bit stiff and wooden.

But these minor faults to the contrary notwithstanding, "For America We Save" is a picture which should be given the widest possible circulation these days, and seen by everyone.

Home Movie Previews

THOSE WERE THE DAYS

Scenario-Vacation film, 200 ft., 8mm. Kodachrome.

Filmed by John E. Walter.

Here's a little picture we wish could be circulated among the nation's movie clubs, for it points the way in no uncertain terms to the means by which amateurs can keep their cameras turning in spite of wartime restrictions on travel and shortages of film and equipment.

As will be seen from the film's script, which is reproduced on Page 18 of this issue, the picture is cleverly made up of odds and ends of film exposed on week-end and holiday vacation trips back in the "good old days" when one could get gasoline to go somewhere, and film to expose once he got there. The thread of continuity is provided by perhaps forty or fifty feet of tie-in shots in which a husband and wife (played by Mr. and Mrs. Walter) discuss the impossibility of going anywhere that week-end, and reminisce over past trips.

Photographically, as might be expected, the picture has its shortcomings, as some of the film had obviously been gathering at least figurative dust on the family shelves for several years, and has faded until little remains except what might be a magenta-toned black-and-white image. But where the film is newer, Walter's photography and compositions are excellent. And the cleverness of the continuity and editing make it rise far above its shortcomings.

MAN-MADE JUNGLE

Documentary, 200 ft. 8mm. Kodachrome. Filmed by Fred Evans.

Taking its title from that of a best-selling book by the directress of one of America's largest zoos, this clever little picture proceeds to take the filmer and his family through the zoo in perhaps the most complete fashion we've ever seen in an amateur film. Cinefilmer Evans informs us he started out by asking the cooperation of the zoo authorities, and as a result he has some of the most interesting close shots of the zoo's birds and beasts that we've ever seen screened. Not only does he secure unusually intimate shots of these

creatures; he also manages to get unconventional angles on even the most hackneyed subjects—the sort of things you wish you'd shot, but never remembered to do when you had the opportunity.

The picture is carried along with a pleasant little thread of story, in which the family is seen every now and again trudging through the zoo or reacting to the strange animals they see. It is livened up with well-made titles, too, which are spiced with a dash of humor.

Our only criticism is that the introductory scenes, made inside the family's home, in which they decide to take their youngster to visit this "man-made jungle," are badly underexposed. The maker explains that the reason for this is that he made them on out-dated Kodachrome. Realizing that out-dated film loses speed, he allowed an additional half-stop exposure. This is not nearly enough in this case, however, (two stops would have been much more like it), and in addition the color-balance is decidedly off. It's accidental, of course, but none the less a convincing demonstration of why it's unwise to hoard film these days!

Movie Clubs

(Continued from Page 23)

ly effort by Member Koehler, entitled, "Lemon Aid," and to two Kodachromes, "Board of Trade," by Archibald MacGregor, and "The Portrait," by Member Roeskin.

The Club also voted to buy a dual turntable to add to its equipment, and the Committee reported on the progress of the Club Film. Other films shown included "World's Fair," a masterpiece of technique and musical scoring by Mr. MacGregor; "Alaskan Adventures," by Richard Mallory, and "Summer Beach Shots" by Member Cascio.

Highlighting the December meeting was a showing of the AMERICAN CINEMATOGRAPHER'S International Prize-winner, "Doomsday," filmed by Ruth Stuart, of England.

Photography of the Month

(Continued from Page 17)

They easily take rank as the best marine miniatures seen in many years. Most importantly, they're so completely convincing that they don't give the impression of being miniatures; indeed, at the preview we encountered several picture-wise trade-paper representatives who found it hard to believe that these scenes were not specially-made shots of full-scale warships, but miniatures.

SALUDOS AMIGOS

Walt Disney—RKO Production (Technicolor.)

Live action sequences enlarged from 16mm. Kodachrome originals.

This unique four-reel featurette comprises four animated sequences in the best Disney manner, welded together by live-action scenes enlarged from 16mm. Kodachrome originals which Walt Dis-

ney and his associates photographed during Disney's recent visit to South America.

These live-action scenes do credit to ex-newsreel-cinematographer Disney, and to the enormous possibilities latent in the enlargement of 16mm. Kodachrome to 35mm. Technicolor. They represent the first use of this enlarging process in a major feature, and as such merit careful study from everyone interested in either professional or amateur cinematography. They present an excellent cross-section of the potentialities and limitations of the process, for in some of them it is obvious that the 16mm. original was of first-rate professional quality, while in others the original was, to say the least, of no more than typical amateur Kodachrome vacation-film quality. These differences show up plainly on the screen, and clearly indicate the professional care which must be applied to Kodachrome intended for enlargement.

The animated sequences are pure Disney, which should be enough recommendation for anyone. Opinions will probably vary as to which of the four animated sequences is best. This writer's own preference is for "Aquarela Do Brasil," which is to his mind one of the loveliest things ever put on the screen. This is said after seeing it three times. And I want to see it again!

COMMANDOS STRIKE AT DAWN

Lester Cowan-Columbia Production.

Director of Photography: Lt. William Mellor, A.S.C.

Cinematographer Mellor has treated this, his last complete production before going on active service with the U. S. Army Signal Corps, in much the same dramatized-documentary fashion of his previous "Wake Island." The accent throughout is on realism and simplicity. Where necessary, he builds to considerable visual-dramatic effectiveness, but he does it so subtly that one is scarcely conscious of the camerawork, but feels only the dominant note of documentary realism.

During the early sequences, strictly photodramatic effectiveness is completely subordinated to the documentary simplicity necessary to convey the placid simplicity of life in pre-invasion Norway. One gets the impression that he is looking in on a little bit of real life in a quiet backwater where nothing ever happens, and life can be lived placidly and happily. As the Nazi invasion and its effects are portrayed, there is a definite, though scarcely noticeable building in dramatic camera-treatment, yet not enough to dispel the impression of documentary realism. The climaxing sequences of the Commando raid are, of course, action-photography raised to the highest pitch, and incidentally a very spectacular job of editing on the part of film-editor Anne Bauchens.

Mellor's treatment of his players is particularly outstanding. The reappearance of Lillian Gish, for example, after so many years off the screen, is some-

thing to cause comment, and his treatment of her brings her back with no shattered illusions to those who remember the Lillian Gish of two decades and more ago. In his treatment of the male players, he gives a succession of virile portrait-lightings which deserve the highest praise.

That sort of praise, however, does not accrue to the print which we saw previewed. It was undoubtedly a first print, and not a fully corrected release-print, but it was an unusually poor one, in some sequences making Mellor's camerawork seem as uneven as that of an inexperienced amateur. We sincerely hope that the release-prints are better balanced than the one we saw, to do justice to a very fine job of photography.

YOU WERE NEVER LOVELIER

Columbia Production.

Director of Photography: Ted Tetzlaff, A.S.C.

Ted Tetzlaff, A.S.C., is without doubt one of the foremost glamor specialists of the industry, and in this delightful film (we've seen it twice and enjoyed it both times!) he is decidedly at his best. Some of his close-ups of Rita Hayworth could hardly be surpassed. In an Army camp, they'd doubtless make the audience whistle; in any photographic group they'd elicit "oh's" and "ah's" over their photographic perfection.

We liked his treatment of Fred Astaire's dance-numbers, too. They get pleasingly away from the conventional, run-of-the-mill "dance number" lightings, especially in the case of the one done on the porch to the tune of "I'm Old-Fashioned." Its the first low-key dance sequence we can remember seeing. All told, "You Were Never Lovelier" is another picture we don't want to try to describe, but urge you to see.

LIFE BEGINS AT EIGHT-THIRTY

Twentieth Century-Fox Production.

Director of Photography: Edward Cronjager, A.S.C.

This is another of Eddie Cronjager's excellent examples of smooth cinematography. It's not up to "The Pied Piper," for neither story nor locale give such opportunities for cinematographic effectiveness and mood treatment, but it is none the less excellent.

An epigrammatically-minded commentator might dismiss it by saying that he's dealt excellently with Ida Lupino and with Monte Woolley's beard, and let it go at that. But Cronjager has done a good deal more than that: in a picture which would have been dramatically harmed by obviously pictorial camerawork, he has held himself in, and kept his camera-treatment perfectly attuned to the action and locale. Often that is a great deal harder to do than to turn out a spectacular example of "pretty" camerawork.

George Barnes

(Continued from Page 14)

achievements of the early 20's.

Soon after this he joined the United Artists' organization, where he photo-

graphed Rudolph Valentino's two last productions, "The Eagle" and "Son of the Sheik." It was on the latter production that he pioneered in the use of two of the most important advancements in cinematographic technique—panchromatic film and incandescent lighting. Now that these two developments have become accepted as such indispensable commonplaces that it is impossible to imagine making pictures without them, there is no shortage of claimants for the honor of having used them first. But back around 1926 it was different: it took real courage to stake one's reputation on the performance of such new and untried materials and equipment. And Barnes was among the first—if not, indeed, actually the first—cinematographer to employ them throughout a top-flight major production.

Panchromatic film brought with it all sorts of disturbing changes. There was a change in film-speed. There was a definite change in contrast. And there were new and unpredictable changes in the way this new emulsion would render colors, both on costumes and in make-up. Unless a cinematographer was very sure of himself and his knowledge, he could easily wreck his reputation by making his players look worse, rather than better, because of using the new film.

Incandescent lighting was another problem. General Electric had developed high-powered globes suitable for photographic use—but there were no lamps in which to use them. Barnes had to improvise his own, using a simple parabolic reflector and, in some cases, a small barrel housing to eliminate stray light-rays. In addition, while it was learned that the more red-sensitive panchromatic film was "faster" to the warmer light of the Mazda, no one knew just how much so, or in what proportion to balance Mazdas and the usual bluish arc and mercury-vapor lighting. And there were no exposure-meters in those days! Barnes' success with these new materials on "Son of the Sheik" is high tribute to his technical skill, as well as to his technical progressiveness.

Thereafter, for some eight years, Barnes spent most of his time with the Samuel Goldwyn organization, photographing the long series of romantic dramas co-starring Ronald Colman and Vilma Banky—pictures which were consistently distinguished by some of the finest pictorial camerawork of the climaxing days of the silent picture.

Indeed, pictorialism has always been the distinguishing feature of Barnes' camerawork—magnificent pictorialism and an unexcelled attunement of visual mood to dramatic mood. "Rebecca," which so deservedly gained him the Academy Award for the year's best black-and-white photography of 1940 was perhaps the most spectacular example of this, with its remarkably interlaced changes of mood and key, yet with a steadily mounting atmosphere of menace subtly dominating every scene

and sequence. But almost any of Barnes' films will afford a worthwhile study in both cinematic mood and pictorialism.

He approaches each assignment consciously seeking opportunities to make his camerawork and lightings enhance the dramatic mood of the action.

"My first step on being assigned to a production," he says, "is to sit down and try to visualize the script as I read it. I try to analyze the dramatic values of each scene and sequence, and decide what visual treatment will suit each best. I break things down in my mind and decide which sequences will call for high-key treatment, which will benefit by low-key treatment, and where and in what scenes my photographic transitions between the two should come.

"When I have this clear in my mind, I go over the script in the same way with the director, making sure that we both see the dramatic values—visually, at least—in reasonable agreement. From that point on, it's a matter of coordinating the physical details of production—sets, costumes, and so on—with this advance visualization.

"Of course, some pictures can stand more of this mood treatment than others. A picture like 'Rebecca' is a delight to do, for it offers such great opportunities for mood and pictorialism. In a picture like, say, 'Wake Island,' to go to the opposite extreme, the photographic opportunities aren't so obvious. They're there, but they're different. Pictorialism—at least of the more noticeable kind—would be badly out of place. But the need for keying your photography to the dramatic mood of the action is still there, more strongly than ever. Only in this case you must do it very deftly, so that you still keep the dominant accent on realism."

Another phase of George Barnes' approach to his work is one he doesn't talk much about—the thorough-going training he gives the members of his camera crews. But if you were to go through the list of men who have been operatives or assistants with him in the past, and then gone on to shoulder the responsibilities of full-fledged directors of photography, you'd find yourself building a remarkable list of outstanding cinematographers. Without doubt the most spectacularly outstanding alumnus of Barnes' training is Gregg Toland, A.S.C.; Harry Wild, A.S.C., is another, and so is Stanley Cortez, A.S.C. Decidedly, Barnes trains is junior fellow-workers, and trains them well. Maybe he remembers the training he received twenty-five years ago from John Stumar, which started him out on the path to the cinematic heights! END.

Convoy

(Continued from Page 12)

you've light enough to make a slow, fine-grain film like Background-X fully satisfactory. But a lot of the crucial

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action is likely to occur in the early morning or late evening, when the light isn't so good. Then you'll appreciate a faster emulsion like Plus-X or Super-X.

You'll find these faster films useful, too, for making interiors below-decks. We hadn't expected to shoot interiors, but when we got there we unexpectedly found it necessary to make a few shots in the engine rooms and living quarters. With the help of the ship's electrician and the Canadian Navy stillman who was assigned to work with us, we managed quite well, using Photofloods screwed into regular lighting sockets for illumination. On some ships which had 110-Volt current, we could power the Photofloods from the ship's generators. Wherever this current was available, we also used it to power the camera-motors, as it gave a steadier current than batteries.

In closing, I'd like to express my appreciation to the officers and men of the Royal Canadian Navy, who cooperated so well with us, and helped make our pictures even better than we had hoped. I hope that when the picture is finished, they'll find we've done as well by them as they did by us. END.

Propaganda Films

(Continued from Page 11)

narration translated into twenty different languages for international distribution.

The making of these reels was based on one of Dr. Goebbels' pet ideas—to assign trained cameramen to keep pace with the military units in the field. These cameramen were attached, along with other propaganda experts in radio and newspaper reporting, to the high commands of front-line units. When Hitler's mighty war machine rolled into Czechoslovakia, and later thundered across Poland late in 1939, over 40 of these ardent cameramen lost their lives. In this campaign nearly all of the cameramen were civilians, and due to the losses they suffered, it was decided to make soldiers of them thereafter. They were sent to field training-schools upon their induction, and were taught the most important factors of modern warfare, since being a cameraman was usually a secondary duty for these technicians. Most of them were promoted to the rank of non-commissioned officers, and a few of them received commissions, depending of course on their qualifications.

Their films were not only used as a powerful weapon of propaganda, but as a means of training young officers and enlisted men in the technique of blitzkrieg. Taking a leaf out of the book of the World War I film-makers, these films naturally concentrated on German victories and enemy blunders. Being planned primarily for propaganda, the makers of these films saw to it that if neither of these existed in actuality, they would be staged for the camera. Often they got their most effective pictures long after the actual capture of

a town by carefully staging the action, and always, you may be sure, playing up to the full the might, courage and all-around invincibility of the Nazi supermen and their war machine.

The story of how one of these films—the feature-length picture of the blitz across Poland—paid off its makers has become familiar. Shown to selected audiences of officials of neutral Scandinavian countries, the film is credited with doing much to “soften up” these queasy Quislings and making possible an almost bloodless invasion. Later films, including “Victory in the West,” the film record of the fall of France and the Low Countries, played similar parts in the Nazis' domination of other countries in central and southeastern Europe.

But these excellent pieces of propaganda have backfired upon their makers. A great deal of this footage, en route to Latin American countries to begin a similar softening and pro-Nazifying process in our own hemisphere, was intercepted by the British Navy, and in due course became available to film-makers in this country and Canada. The March of Time used some of it most effectively in “The Ramparts We Watch”; the Canadian National Film Board used much more of it in “This Is Blitz” . . . in each case with narration and audience-effect wholly unlike that which Dr. Goebbels intended—to arouse the people of the United Nations to an awareness of the enemy we are fighting, and to impress upon them the fact that these enemies are *not* supermen, but merely well-equipped gangsters who can be beaten if we “git thar fustest with the mostest.”

Finally, you may be sure that prints from these negatives serving yet another vital purpose, one which will cause Dr. Goebbels and his master endless distress. Used in the training of officers and men of the United Nations' Armed Forces, they are giving a visual education in blitzkrieg to the men who are already proving they can out-blitz the blitz, and turn it back to defeat its Nazi inventors! END.

Better Titles

(Continued from Page 21)

anything like adequate provision for holding the camera rigidly in place. With most of these titlers a little time spent in tinkering up an adapter that will fit your camera into the same position every time will pay big dividends in better titles.

By all means shoot your titles on the same type of film the rest of your picture has been shot on. For a Kodachrome picture, your titles should of course be made on Kodachrome, too. For a black-and-white picture, use the same make and type of black-and-white reversal film you used for the picture: if you shot the picture on Eastman film, make the titles on Eastman film; if you shot it on Agfa, make your titles on Agfa. If you don't, you'll find differences in contrast and, even more important,

in the thickness of the film, which will make your titles stand out from the picture in an unpleasant way. If the title-film is thicker or thinner than the picture-film, one or the other will be out of focus.

And, by the way, if your picture (black-and-white, that is) is several years old, I'd strongly advise you to humidify it before trying to cut in titles just made on fresh film. The difference in moisture content will be quite enough to throw your titles out of focus.

Using reversal-film of course means that you should have light letters on a dark-toned card. Yes, I know quite a few professional films during the last few years have had main titles which used dark letters on a light background: but these were always for introductory titles—never for subtitles cut in between picture scenes—and if you'll notice carefully, you'll see that even so the light-toned background is generally a light gray rather than pure white. The light lettering on a dark background is more legible, and gives a smoother visual continuity with the picture than dark letters on a light background. Besides, I've never seen a dark-on-light amateur title which was correctly exposed, anyway, and when these titles are underexposed they're pretty horrible examples of what shouldn't be done.

The best way to calculate exposure, by the way, is to take your meter-reading beforehand using a sheet of neutral gray paper in the titler. This will give a reading that is usually the most satisfactory balance between the dark tone of the background and the light tone of the lettering.

Always try to have a definite contrast between the letters and their background. If you're working in black-and-white, use clear white or silver letters against a flat black background. If you're working in Kodachrome, be sure you have a definite color-contrast between background and letters. Probably the best all-around combination to use is white letters on a deep blue background, though if your picture has a color-scheme that will stand it, and your taste runs that way, I won't argue with you if you use a red background rather than a blue one. Incidentally, you'll get some first-rate ideas for color combinations if you study the main titles of Technicolor pictures—especially some of Walt Disney's pictures.

For most titles, other than main titles, a very simple, unobtrusive background is by far the best. For black-and-white, a plain, flat black or dark gray; for Kodachrome, a plain, solid color. Patterns or decorations are generally imitating except for main titles and key subtitles which introduce a new sequence. After all, titles shouldn't draw attention to themselves, and next to inadequate titles and badly made ones, probably the worst amateur title-fault is using titles that too violently call attention to themselves.

Finally, remember that what the titles say is every bit as important as how they look. There should be enough of

them to give a clear explanation of everything you'd explain verbally if you were showing the picture, untitled, to a friend. And the wording of each title should be ample to make its meaning clear. I know some of the textbooks suggest trying to polish the wording of titles for brevity as though you were composing a telegram, but personally, I don't agree. Most of the amateur titles I've seen say far too little. In a picture of Yosemite, for instance, the bare statement "Mirror Lake" in a title leaves half the story untold. A title such as "We had to get up early to get this shot of Mirror Lake, for soon after dawn the daytime breeze ripples away the reflections" not only carries your picture along better, but by telling something interesting about the coming scene, makes it more interesting to the audience.

Similarly, most pictures—especially travel and vacation films—would benefit by an introductory title between the main title and the initial scene, unless, of course, you've tied your picture together with staged action of a story nature. Most amateur travelogs jump into things much too fast. I recall, for instance, an entry in a recent club contest which illustrated this excellently. The picture dealt with one of the most picturesque and off-the-beaten-path hamlets in Mexico. The main title—"Primitive Patzcuaro"—hinted at this; but then the picture jumped literally into the main street of the village, without a word of explanation. And all through the picture you were wondering where Patzcuaro was, and why it was primitive. Two or three sentences in an introductory title immediately after the main title—perhaps supplemented by an insert of a map—would have cleared the whole thing up, and made the picture much more enjoyable. I think it would have lifted it to a higher rating in the contest, too!

Yes, there's plenty in the way of filming opportunities if you try re-titling some of yesteryear's films. It doesn't take any gas, and you won't consume much film. But when the job is done, I'm confident you'll find that if you've done it well, those films of yesteryear will seem new to you—and to your audiences, too. **END.**

Edit for Balance

(Continued from Page 20)

the screen. It saves footage, too. All sorts of actions can beneficially be treated this way. And if you use spoken titles, the same thing holds good: cut in the title just after your picture shows the character starting to speak, and when you cut back to the picture, show the person just finishing speaking. The audience, while reading the title, will mentally bridge over the gap in pictured action, and will accept this treatment as being much more natural than if you had showed the entire action.

You are getting on with the story, the important thing, when you lop off any-

thing that does not contribute. To establish the fact that a character leaves one room for another it is not necessary to include the action that takes him to and through the door of one room and then pick him up as he emerges through the door in the next room. Once it has been established that he is going through that door, the next scene can cut in when he is well in the room. This illustration can have many applications. And while this cut involves only an inch or two of film, the sum total of such cuts in a picture can mean the difference between its being interest-sustaining or tedious.

You can use the same principle to speed things up and save footage in many other ways, too, especially if you know how to balance shots of the actual action with intercut shots of somebody's apparent reaction to it.

Take a horse-race movie, for example. Excitement is added and there's no loss of realism if you build your sequence this way: begin with a shot from the grandstand of the horses getting away from the gate. Then cut to a long-shot (preferably from more or less of a reverse angle) of the crowd reacting to the always thrilling cry "They're off!" Then cut to your long-shot of the horses at the first turn as they jockey for position on the rail. Then cut to a fairly close shot of only one or two people in the crowd, as each reacts to the way the nag his money is on is being handled. Next, cut in that follow-shot you made as they raced along the back-stretch. Follow this with more reaction-shots among the crowd—preferably from increasingly close angles. Next, cut back to the horses as they round the final turn into the home stretch. Follow it by a shot—maybe a succession of quick, close shots—of spectators as they anxiously urge their favorites on. Then cut to your shots of the actual finish, after which you can end your sequence with reaction shots of the spectators—the lucky ones gesticulating their joy and perhaps heading for the pay-off window, and the unlucky ones tearing up their tickets and tossing them away.

You may not have shown all the race in the literal sense—probably your reaction-shots may have been made at another race, anyway—but in the more important picture sense, you've really shown all the race, for you've captured the spirit of thrills and uncertainty which make any race dramatic. And you can trust the imagination of the audience to fill in the blank spots in the actual coverage of the race itself.

In a word, the best rule to follow in editing film is—cut it in when it becomes important or interesting . . . and when it has made its point, **CUT IT! END.**

Skiis

(Continued from Page 19)

as a consequence is able to record only a part of the activities of the swift and

far-travelling skiiers, Dr. Howard dons his skiis, abandons his poles and takes the camera a-skiing.

Thus equipped he is able to follow the skiers in their fast-flying, downhill gliding and cross-country runs, and bring to the screen much of the real thrill and exhilaration enjoyed by the "average" or only moderately accomplished skier. All this amidst scenes of majestic grandeur seldom glimpsed except by the hardy sportsmen who strap "barrel-staves" on their feet and skii up to it.

He does this, mind you, while holding the camera in his hands. Somehow he manages to keep it focused and steady while sliding down hill, at a sometimes dizzying pace, past shrubs and trees and other things that quicken the pulse of the aesthetic photographer but serve only to trap and trip the unwary skier. This in itself is no mean accomplishment and these sequences alone would make the film well worth seeing. Particularly since the efforts of the industry's best newsreel cameramen, with their bulkier equipment and invariable inability to skii, have fallen far short of the standard set by this self-proclaimed amateur.

To further gain the interest of the potential skier, and as helpful instruction for the beginner, Dr. Howard has included some better than average slow-motion shots. The performers in each instance are top-ranking skiers and they execute, for the benefit of the camera, the various turns and jumps and bends without which it seems no skier would care to practice his hobby.

Incidentally, Dr. Howard told us that he wears out four camera-motors every year getting these slow-motion sequences. He also told us that his sole equipment consists of "an inexpensive Eastman camera," probably of the magazine type. Anything else, he said, would be too cumbersome to manipulate during the moving shots taken from skiis. Well, he turns in an excellent show.

Adding a topical note, Dr. Howard mentioned that the many thousands (exact number a military secret, but a considerable and formidable force) of men comprising the United States Mountain Troops (Skii Troops) were recruited in a large part from the skii enthusiasts who had learned their skiing in peacetime.

For the sake of the record we must report that Dr. Howard and his camera out of the snow do not turn in the same satisfying performance that they do in the snow. There are many things he could learn, some of them fundamentals, from amateurs whose pictures have never been seen by anybody outside of family and friends. The opening sequences of his present film could be cut extensively, or even done away with entirely, and there are some bad cuts here and there. As a whole, his pictures are of such interest that it might pay the good doctor to equip himself with something more than his "inexpensive Eastman" for those shots, which form

the bulk of the picture, who do not require him to shoot from slithering skis. He would improve the texture of a lot of shots, too, I think, if he would use a coated lens and a more adequate lens-shade.

But these things are beside the point. The point is, that despite these shortcomings, most of which are unimportant, the picture is a great success and fulfills its mission admirably. In sum and substance it represents a strong argument for any picture sincerely made by someone with a complete knowledge of and enthusiasm for the subject-matter. It is an endorsement of Dr. Howard's initiative, an entertaining and interesting cinematic treatment of a national pastime. In addition it is further proof of the growing use to which the 16mm. medium is being put and it presents a challenge to other cine-amateurs with an idea and a purpose to put their ideas across and help achieve that purpose through a most convincing medium. **END.**

"Left-Overs"

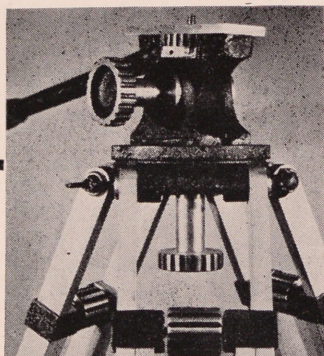
(Continued from Page 18)

Scene 24: Front door closes, showing on back of it

Title: THE END.

Fade-out.

There are endless variations of this script and the actions of the people who join in it with you. Get busy on a new-old film of this type; the fine results you get will surprise you as they surprised me. **END.**



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Kodachrome

(Continued from Page 13)

floods and more filters on the camera lenses to attain the color-balance I desire.

Standard studio lights plus a light blue filter on the camera lenses with Type A Kodachrome will deliver exactly the same magenta-toned result as Photofloods and CP's with no filter on the same film.

However, many producers prefer the results obtained by using "hard" lights (arcs) with regular daylight Kodachrome. I, too, like the results from this practice. The colors seem to have more density (color saturation). If Mazda lights are used with the arc lighting, MacBeth blue filters must be used over the lamp lenses (not the camera lenses.)

Even with the MacBeth blue filters on the Mazda units they seem to emit an excess of red which must be subtracted from the scene by use of a green-blue filter on the camera lens. The density of such a filter can only be determined by the number of such Mazda units in use and the color of the subjects they are lighting.

One of the big factors in favor of using daylight Kodachrome indoors lies in the fact that the colors on a human being (clothing and skin tones) match more accurately when shot outdoors with daylight and indoors with arcs.

Another factor in favor of using daylight Kodachrome indoors occurs when it is necessary to mix daylight with artificial light . . . in factories, offices, homes and the many other places where Kodachrome is required to bring perfect results. Usually it is impossible to have arc lights on such occasions, principally due to cost.

Thus it becomes necessary to use Mazda with MacBeth blue filters. One very important precaution must be taken into consideration when setting up in the typical location. Remember, Mazdas covered with MacBeth blue filters still emit some red, and the longer the electric feed lines are from source to each unit causes a voltage drop to each lamp which makes them emit still more red which must be subtracted by use of a green-blue filter of proper density on the camera lens.

Another headache that nearly always occurs on set-ups in factories and office buildings is the fluctuations in line voltages caused by the starting and stopping of elevators or other heavy electrical equipment. What with industry under wartime production pressure it becomes impossible for the assistant director to have a plant's production stopped long enough for a well-balanced "take". There's no cure for this little aspirin salesman. You've got to take it, even if you don't like it.

Of course, the easiest way out of all this trouble of mixing lights is waiting until after dark and using Type A with Photofloods and other Mazda units. The only minor fault will be that the colors will not match as accurately with ex-

terior scenes of the same persons . . . if people are being used outdoors and in. Your story will determine how best to shoot.

In summation . . . shooting Kodachrome requires just a little knowledge: astrology and psychology should start you off right with your producer . . . Arithmetic to know what filters to add to camera lens or light unit in order to subtract unwanted colors, will keep you right on the screen . . . Entomology (my dictionary's definition proves it is helpful handling camera bugs) . . . Accounting to know how to charge and collect for your ability . . . and above all that sense of humor when clouds start rolling across the sun in middle of takes, elevators or motors start up to dim your lights just as the camera starts . . . crew chatter about gin-rummy or football or blondes, just while you are figuring out what density of blue filter must be added to subtract some undesirable rust.

Above all, to do a good job with Kodachrome take a little additional time, demand the accessories you know you'll need: lights, reflectors, diffusion, scrims, filters and most of all, a good crew. Your producer may yell about the costs but he'll yell louder and longer if the results are bad.

And before I forget, my sincerest apologies to those Kodachrome cameramen who have been telling their bosses that "Kodachrome can only be shot between 10 a.m. and 2 p.m. for best results." **END.**

Television

(Continued from Page 9)

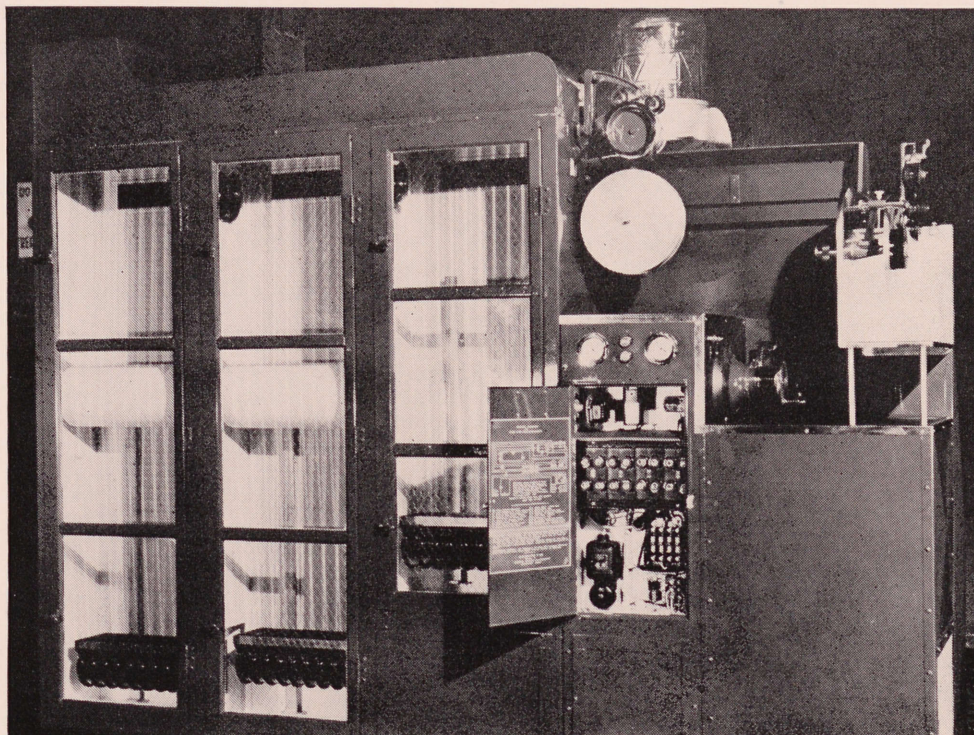
audience, far from being bored by it, has come to anticipate its fun sequence by sequence, as Rochester's telephone call and The Mighty Allen Art Players are announced.

The difference between the radio pattern show and the television pattern show has been simply this: that in radio the material within the continuity skeleton is carefully rehearsed, while in television it has been barely rehearsed at all. At CBS our factual shows such as Red Cross instruction or art appreciation, although thoroughly prepared and documented, were completely ad-libbed; our entertainment shows were combinations of material from other mediums—mostly vaudeville and night clubs—which were placed on our stage with little alteration and less rehearsal.

Under these conditions, where the success of the weekly pattern depends on the televisor's ability to pick up ad-libbed or unfamiliar material with little or no rehearsal, the cameraman's contribution is of obvious strategic importance.

It is highly probable that, as in the early days of radio when the industry was still fumbling for the most profitable form of operation, the first post-war telecasters will continue to explore this technique of patterned informality. When they have milked it dry of both

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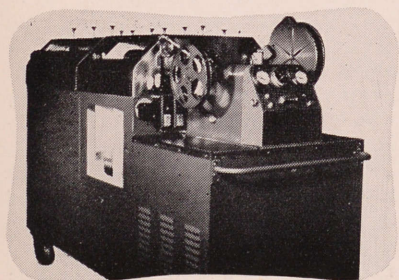
The Houston 16 MM Reversal Film Processing Machine is fully automatic. The rate of processing is at fifteen feet per minute, with an output of 900 feet per hour.

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the technical experience it can provide and its appeal to the audience, they will undoubtedly proceed to the more elaborate programmes requiring memorizing of lines and longer rehearsals.

Until that change takes place, a considerable amount of the responsibility

for the success of the show will continue to rest on the ability of the cameramen to shoot it correctly without ever having seen it before. When the ad-libbed, informal material within the program patterns is replaced by skillfully produced and rehearsed material, the cameramen's status may be lessened.

No one, at this date, can accurately predict the percentage of that replacement. I think, however, we can safely assume that since, by definition, the main characteristic of the medium is its ability to transmit sound and picture instantaneously, a considerable amount of television air time will always be taken up with material to which this property of the medium can bring a unique service—namely mobile and studio sports, spot news and special events. These are by their very nature unrehearsed or barely rehearsed programs. They will demand the same sort of camera creativeness that played the major part in the informal studio programmes. If we realize that the quality of unpredictability, common to sports and news events, occurs as well in other sorts of programs, quizzes, amateur hours, public discussions and debates, some educational, and all audience-participation programmes, then we can only conclude that in the future most of the time the cameraman will have to function very much as he does now.

But what of the rest of the television schedule? That is again a guess

—only a guess—which I should like to make. I feel that just as the audience will love the spontaneity, the informality of its sports, news, and special events programmes, so it will reject the deleterious effect of the over-cheap production methods associated with informality when it appears in dramatic, variety, or tightly written factual shows. Indeed, the mere fact that a show is not canned on film but is known to be happening while the audience sees it, makes informality a virtue. But actually, the more informal a show *seems*, the more painstaking its production, the longer its preparation, and the more expensive its talent. As Henry Ward Beecher once put it, the best extemporaneous speeches are the ones which have been the most carefully prepared.

I do not think it is stating a fact with which the telecasters themselves will quarrel if I say that to date much of the nation's television fare has not been consistently up to the entertainment standards set by the American public. This has been very understandable because the telecasters have been forced to spend most of their relatively small budgets in expanding their knowledge of the technical, social and economic aspects of the new medium. They are aware that the faults in their studio programmes have been due to inexpensive talent, unskillful production or a virtual absence of production.

At CBS we believe that experimental operations have taught us the "feel" of the medium plus considerable knowledge of its cost and future economic structure. We know that both talent and production value are purchasable at a price and our current studio shows—both the informal, productionless ones and the production "pattern" shows—have given us a yardstick indication of what these costs may be.

Now, for the non-mobile, non-special event operations, this evolution from the informal, unrehearsed, unproduced type of television program to the formal, rehearsed, skillfully produced type of program may make a considerable change in the cameraman's status.

No longer will unfamiliar material be thrown at him, challenging his intelligence and ingenuity to produce a satisfactory pick-up. No longer will every television show be a race between the unpredictable action on the stage and the divining powers of the cameraman. On the contrary, if there are production and rehearsals, there will be camera treatments planned in advance and the equivalent of a film's shooting script.

This means that for the studio type of programme the cameraman's major task while on the air will be the mechanical one of remembering a shooting treatment set in rehearsal, and operating his camera skillfully. Nominally, he will be the operative cameraman as opposed to his present approximation of some of the duties of the Director of Cinematography in films.

Note that I use the qualifying phrase

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"on the air." The introduction of production value will undoubtedly disturb the present ratio of rehearsal to air time to a tremendous extent. The time allotted for rehearsal and planning will many times exceed actual air time.

If the television cameraman is to become an operator only, he will have little part in these non-air operations. If he is to maintain his present superior position in the industry, he will have to participate in, if not actually direct the planning of camera-angles and movements as well as lighting.

Unfortunately, I do not think it is in the cards for him to perform either of these tasks and consistently operate the camera. Peculiarities of the Television production process stand in the way.

It is difficult to describe the specifics of this process in general terms. For this reason I have chosen as an example of the cameraman's function an actual sequence from a very advanced show already transmitted—the Ballet "Billy The Kid" starring Eugene Loring and the

Ballet Theatre Group. I think it will show the cameraman's job more graphically than a generalized description.

Although the rehearsal and planning time spent on "Billy" was relatively short, the camera, lighting and sound treatment were definitely planned in advance. The result was a much greater coherency of production treatment than we had hitherto been able to give a subject. To a limited extent, therefore, "Billy" was probably a good deal more like the television shows of 1948 than of 1942.

Camera No. 1 (6" tele lens, equal to 40mm. lens with 35mm. camera) takes the horse-thief, stage right, struggling with a group of the sheriff's men in a medium-shot.

A cut is made to a pick-up from Camera No. 2 (12" tele lens, equal to 3" lens with 35mm. camera) Billy and his mother, stage left, walk into frame camera right. They are strongly spotted and did they not fill the frame in a close two-shot, their shadows would be observed on the faces of the other dancers standing behind them.

Cut back to Camera No. 1 as the horse-thief gains his freedom from his captors and pulls an imaginary gun. Meanwhile a grip has pulled his 5KW floor spot to camera left and widened the beam so as to remove the shadows from the dancers behind Billy in readiness for the next cut.

As the struggle continues, Camera No. 1 trucks back to a long-shot including the entire stage. Camera No. 2 pulls back simultaneously, off the air, to avoid getting into the angle of the No. 1 shot. It stops at a full-length two-shot of Billy and his mother. Still in the long-shot, the horse-thief shoots wildly about him and a bullet strikes Billy's mother. As she falls, the cut is made to the waiting camera No. 2 which zooms into a medium-shot of Billy lowering the body to the ground, and then in further to a close-up of the mother's face and limp arm.

As Billy's feet move out of frame, camera left, walking slowly and ominously, the cut is made back to No. 1 on the frightened crowd, and Billy enters, camera right, in a medium-shot.

Meanwhile, off the air, No. 2 wheels into a close-up position on the horse-

thief's back and as Billy stabs him the movement is seen in close-up.

Cut back to Camera No. 1 on a waist two-shot, and truck back raising the crane arm to admit dancers in the foreground who crowd Billy. And so forth.

"Billy The Kid" ran thirty minutes and spilled over the 40'x44' television stage in many different choreographic groupings with twenty dancers. I do not think I am exaggerating when I say that the ballet came over nearly as effectively as it would have had it been shot, re-shot, and edited on motion picture film.

Yet, only the director had seen the ballet before, and the cameramen and other technicians who did the show had only a sixty-minute rehearsal period with one dress rehearsal in which to feel the music, get to know the choreography and design the camera treatment. And ninety minutes of rehearsal to thirty minutes of air time is a long rehearsal period in terms of current television practice.

The television cameraman's job is now obvious. He must pan, tilt, truck and compose in keeping with the demands of the subject. He must do this with one eye on his finder, the other on the next move, and a kind of third eye on what the other cameras are doing so that he does not get a shot which will produce a bad optical shock when the cut is made to or from him. He must balance the demands of the individual shot with the all-over pace of camera treatment demanded by the mood of the show. He must keep the moving subject-area of the scene in focus or split focus between significant areas continuously and unnoticeably. He must do so by constantly adjusting a crank or wheel with one hand, panning or tilting with the other hand. Somehow he must simultaneously push a self-propelled dolly or signal an assistant to push it for him.

He must do this in the face of a depth of focus about exactly similar to that obtained with a Speed Graphic carrying either a 6-inch or a 12-inch lens, operating at apertures from 2.7 to 4.5. He is often cursed with an upside-down, in-



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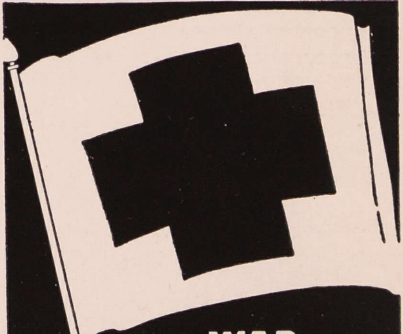
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verse-image viewing screen or finder, and inaccurate parallex correcting devices for which the shouted corrections of the control-room director are little antidote.

If the show has been rehearsed he must remember and follow the camera treatment agreed upon exactly. If it has not been rehearsed, he must, willy-nilly, shoot it "off the cuff"—and do a good job. He must do all of these things without error because *when his camera has been placed on the air by the director, there are no retakes—the audience sees the picture as he shoots it when he shoots it.*

No matter what kind of a show it is, mobile or studio, rehearsed or unrehearsed, the basic fact is that the cameraman controls an instrument of selection and interpretation which is the sole means of carrying the show to the audience.

In the television shows that are unpredictable, the responsibility for that selection and interpretation rests largely with him. For predictable, planned and rehearsed shows, there will naturally be far more time to correct errors and plan shooting treatments. Nevertheless, the skillful execution of those treatments will still depend largely on the cameraman.

It is this fundamental fact which differentiates a television cameraman from a motion picture camera operator. In film the director can screen rushes and re-shoot and edit accordingly. In television the director cannot. For predictable actions he usually counts on the ability of the cameraman to give him for the air show the shots set in rehearsal. For unpredictable shows he must rely almost entirely on the cameraman's creative ability. This is the basic reason why the television cameraman, regardless of the part he may or may not play in the nominal direction of the show, has so much greater responsibility than that of a film camera operator.

These are the operating functions of the television cameraman. They are, as I have indicated, under the present informal, unrehearsed pattern technique completely vital to the art. The ability to fulfill them skillfully should place the individual cameraman in the top ranks of those who will be employed in the post-war television industry. But as the industry changes to more rigid and elaborate production methods, the recognition of the value of this degree of spon-

taneous camera ingenuity and initiative will decrease.

The cameraman, for at least half of all programmes, will then have to function as a subsidiary to the director, or, as the cameramen did in the prophetic "Billy," collaborate with the director in the advance shooting scheme of the show. It is probably, as I have indicated, that regardless of the trend toward elaborate, formal production in the studio, the cameraman will still find opportunity for creative activity in the mobile sports and special events telecasts which I think will make up about half or more of the television schedule.

Nevertheless, it will be in the economic interest of the telecasters to regard studio operations as the hallmark of the cameraman's value. I do not think he will be credited with any other value unless he follows in the steps of the motion picture cinematographers in conscientiously and willfully emphasizing his importance to the art.

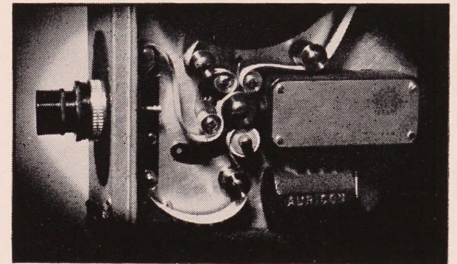
So far as I can see that importance is the job of visualizing the material placed before the cameras—that is not only the operating of the cameras, but that of lighting technician, shooting script creator, and the cutter.

As can be seen from the description of "Billy The Kid" production, it is difficult to imagine such a cameraman operating the camera as well as simultaneously designing the way it is to be used. For this reason, I think the post-war television studio will have television camera operators plus men similar in capacity to directors of cinematography who will do or collaborate on lighting, shooting treatments, and cutting. What amount of credit and remuneration the operators will gain for themselves will depend entirely on their own abilities to convince the telecasters of their importance. As to the position of the chief cameraman, or director of visualization, or whatever he may be called, assuming I am correct, it is impossible to predict whether he will function in that way alone, whether he will combine these functions with those of a programme director, or whether, should he combine them, he will more likely be a radio or film director who will have picked up the necessary technical knowledge.

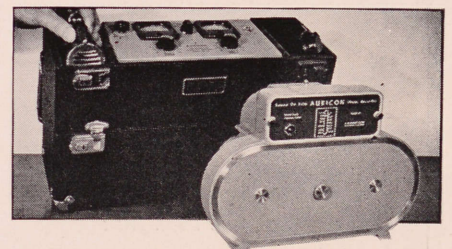
However, a more detailed description of the television production methods may allow the reader to make his own prediction. (To Be Continued)

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Progress

(Continued from Page 7)

process. This is at present strictly an amateur process for use in rollfilm cameras, and while available commercially, is necessarily being exploited on a decidedly limited scale "for duration," the present operations consisting of scarcely more than pilot-plant operation in comparison to the obvious potentialities of the process.

Reports of the perfection of Agfa Ansco's long-rumored Agfacolor process have also been officially confirmed, and the film is understood to be in production, though it is not stated whether the process now in use is a reversal or a complementary-color negative-positive system. Both are known to have been under experiment. This product also is understood to be restricted exclusively to military use "for duration."

The use of natural-color photography and cinematography, both 35mm. and 16mm., for military purposes is known to be enormously on the increase. In 16mm. form, it naturally offers remarkable advantages in convenience and portability of equipment for combat cinematography, as evidenced by Commander Ford's film of the Battle of Midway. It is also understood to be proving invaluable for aerial reconnaissance, as it is stated to be in many cases the most infallible method of penetrating camouflage.

The use of 35mm. enlargements from 16mm. Kodachrome originals has already been mentioned. In the long run it must be regarded as probably the year's outstanding development in color of an immediately practical nature.

35mm. Professional Cameras

Without doubt the outstanding development in the 35mm. camera field was the development of a radically new camera, designed primarily for military combat use, by camera-engineer Harry Cunningham of RKO. The camera is built in gunstock form for hand-held operation in the field or in the air, yet it embodies an excellent pilot-pin movement of studio type, designed and built to thoroughly professional standards of precision. Interchangeable magazines, each of which contains its own movement, facilitates quick reloading under the most difficult conditions, and the

operating controls are grouped to permit operation even in high-altitude flying gloves or under similar unfavorable conditions. The use of magnesium and similar lightweight metals reduce the weight of the camera to the almost incredible figure of 13 pounds. It appears to be ideal for military use today, and should revolutionize newsreel and expeditionary camerawork after the war.

Another interesting professional camera, apparently as yet largely in the experimental stage, is the "Electroplane" camera based on the designs of the late Dr. L. M. Dieterich, A.S.C., and P. Stanley Smith. This camera—or rather a special mechanico-optical system fitted to a standard Mitchell camera—is stated to produce a uniformly sharp image of everything from four feet to infinity by means of a lens developed from Dr. Dieterich's original "Detrar" design. In this, one element of a special four-element lens oscillates constantly during the exposure of each frame of film, moving the plane of sharp focus repeatedly from four feet to infinity and back without changing the image-size. The oscillation is produced by an electrical mechanism, somewhat similar to the voice coil of a loudspeaker, and synchronized to the movement of the camera.

16mm. and 8mm. Cameras

But one new substandard camera appeared during 1942. This is the Berndt "Auricon" single-system 16mm. sound camera, which was actually designed before America's entry into the war, and subsequently modified to minimize the use of critical materials, castings, etc. In its present form the Auricon camera is housed in a wooden box within which is a sturdy metal plate which serves as a framework to carry the mechanism. The film-carrying movement is essentially similar to that of the same firm's Auricon recorder, with of course the addition of an excellent intermittent picture movement. An ingenious dual drive is employed, with an unusually small synchronous motor used to drive the camera itself while a larger, non-synchronous motor governed by the camera-motor powers the take-up. The recording galvanometer and amplifier are identical with those used in the Auricon recorder. The entire unit has been planned for simplicity, portability and—probably the first 16mm. sound-camera so planned—for sale at a price within the reach of at least the more prosperous advanced amateur. As such, it seems certainly the forerunner of many others which we may expect to see after the war.

Lighting

Inevitably, there were no particular advances in lighting or lighting equipment to be chronicled. With the increase in pictures with a war background, most of which call for an increasingly realistic photographic treatment, there has been somewhat of an increase in the trend toward greater use of arc lighting in monochrome cinematography.

As regards incandescent lighting, the

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recent reduction in the number of incandescent lamp types available, necessitated by the war, appears to have had little or no effect on studio lighting units other than Photoflood and Photoflash globes, which have been placed on a priority basis.

Lenses

Very considerable advances in optical design and materials appear to have been made during the year by American lens-makers, but these have naturally been channelled to the production of military optical instruments. They give enormous promise of great advances in photographic optics after the war, however.

Of an essentially mechanico-optical nature, the "I-R" system introduced by Dr. Alfred N. Goldsmith as a means of securing increased focal range is technically interesting, if not particularly practical for studio cinematography in its present development. Briefly, this system supplements or replaces the conventional camera shutter with one carrying supplementary lenses which correct the focus of the lens to different focal points within the field. This differential focuser or "diffo" is synchronized with the lighting in such a way that during the exposure of each frame the "diffo" successively corrects the focus of the lens to the several key planes in the field, at which time that particular plane is illuminated by a synchronized flash of light from any desired number of sources, while the lighting on the other planes of the field remains off until the "diffo" successively focuses the camera upon each of them and their synchronized illumination flashes momentarily on to make the exposure. The system appears to work on a laboratory scale, but is obviously too unwieldy to be practical for studio cinematography.

Special-Process Cinematography

In consequence of the wartime restrictions on set-building, transportation, and the like, it is inevitable that all types of special-effects cinematography are

coming to play an even more important part in production than they have heretofore. Miniatures are obviously necessary for staging many types of battle and bombing scenes, not to mention scenes of aircraft flying, landing and taking off (the latter since private flying and aerial photography are naturally forbidden in the West Coast area which is technically a Combat Zone.)

Background projection or "transparency" process work has similarly had to meet increasing demands, not only in the quantity of scenes needed, but also in physical scope. In at least one instance the recently perfected triple-head process projectors proved inadequate, and two of these super-powered units had to be used, with two screens placed side by side, giving a total background screen width of approximately 50 feet, for the Technicolor "The Forest Rangers."

For the same production, Gordon Jennings, A.S.C., developed a very important accessory in a large mobile boom or crane with which to manipulate miniature airplanes. This boom makes it possible to film action with miniature aircraft carrying out manoeuvres which would have been impossible with conventional means of control.

Another important development in special-effects cinematography was a series of experiments made by Vernon L. Walker, A.S.C., and Carroll Dunning with the use of 35mm. enlargements from 16mm. Kodachrome originals for process background plates. While this method has not as yet been used on actual production, the tests indicate that it should be satisfactory, at least for scenes with a moving-camera background, in black-and-white, and probably in color as well. This should prove extremely advantageous in securing backgrounds where the bulk and weight of conventional 35mm. camera equipment would be excessive. In addition, the greater focal depth obtainable in enlargements from 16mm. originals should be of value in many other types of background shots if the question of registration can be adequately answered.

Accessories—Professional

A very practical accessory was developed by the Warner Brothers' Camera Department in their automatic scene-slater for use with Mitchell BNC cameras. This slater is built directly into the camera, rather than fitted externally. It is placed on the right side of the camera housing, so that if the camera is held in focusing position after starting the motor, and only racked over into photographing position after reaching operating speed, the slating is automatically done while the camera is speeding up.

Another practical accessory developed by the same studio was a camera cart which serves as a mobile locker in which two complete cine-camera outfits and a still-camera outfit, with all necessary accessories, can be wheeled directly to the set.

A. J. Kookan, of the same studio's Art

Department also developed a very interesting accessory called the "Heliocator," by means of which the sun's angle for any given location, at any given date or hour, may easily be predetermined. The value of this information in plan-

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ning sets and scheduling location shooting is obvious.

Just before wartime restrictions clamped down on such developments "for duration," the Republic Studio completed a special camera-car which represents important improvements over anything of this nature previously available, as regards both steadiness of riding qualities, acceleration, and operating convenience.

The Camera Equipment Co., of New York, developed an excellent and much-needed shift-over device for use with the Bell & Howell Eyemo camera and its prismatic focuser, so often used in military, newsreel and documentary camerawork.

Accessories—Amateur

Very few, if any, new accessories for substandard cameras were developed. Two manufacturers in Minneapolis, however, developed special gunstock mounts for use with various types of 16mm. and 8mm. cameras. Intended originally for use by sportsmen, these mounts should prove of considerable value in military combat camerawork, especially in view of the extensive use being made of 16mm. cameras for this purpose.

Set Design

Set design was basically influenced by the governmental order prohibiting the use of more than \$5,000 worth of new materials in constructing the sets for any one production. The larger studios—especially those which had for some years been turning out the so-called "B" or low-budget films, had extensive resources in the form of stock or standing sets, and had for years made a practice of remodelling such sets for use in their lesser productions. The studios which had had a smaller output, or which had concentrated on "A" pictures, of course could not do this. In consequence a considerable inter-studio exchange of sets, especially specialized ones, grew up.

Some studios which had previously always used hard-walled sets made increasing use of fabric-walled flats as a means of holding down set costs. Others experimented with the construction of so-called "standardized" sets, which could be left standing and, with very little remodelling, serve repeatedly in picture after picture.

Laboratories

In the laboratory field, a sensational development was the design, by the H. W. Houston Co., of a series of almost completely automatic developing machines for field service with the Army and Navy. These machines are available in types for both 35mm. and 16mm. film, and for reversal processing as well as the conventional negative and positive types. They are designed for utmost simplicity and portability; some of them are scarcely larger than an ordinary office desk and are, with the exception of their power and water supplies, completely self-contained, even to

solution temperature control accessories and air-conditioning. What such machines will mean to the commercial operator and to expeditionary cinematography after the war can easily be imagined.

Sound—35mm.

Very little can be chronicled under this heading, though there were a number of technically interesting "undercover" developments.

Sound—16mm.

Probably the outstanding fact relating to substandard sound is the fact that during the past year an increasing number of America's more advanced cine-amateurs have turned to 16mm. sound, not only on synchronized disc, but sound-on-film. Coupled with the appearance of moderately priced sound-film cameras like the Auricon and the volume production of 16mm. sound projectors for the military services, which will naturally lead to lower prices, this points to a definite trend toward the use of sound-on-film by post-war amateurs.

In the professional 16mm. sound field, an important development was the introduction by J. A. Maurer, Inc., of their "Certified Sound" system. This is a further refinement of this firm's universally approved 16mm. professional recording equipment, redesigned on a coordinated unit basis, considerably simplified and with the addition of a volume-compressor circuit, so that operation is so simplified as to almost assure satisfactory results even in the hands of comparatively unskilled operators.

Projection

The outstanding development in this field is without doubt the enormous use of 16mm. sound-on-film by the military for both training and entertainment purposes. While little, if any 16mm. sound projection equipment is available for civilian use, it is being turned out at a vastly expanded rate for military use. Several manufacturers, including Bell & Howell, De Vry, and others, have announced "Victory" models making a minimum use of critical materials. These "ersatz" designs and constantly increasing volume are clearly pointing the way to improved and cheaper products after the war.

Still Photography

All civilian still photography has suffered from shortages of materials due to the war. Without doubt the outstanding development in this field has been the introduction of the Kodacolor process.

Visual Education

Educational motion pictures and their use have been advancing by incredible leaps and bounds, due to the increasing use of instructional films for both military and industrial training. With all of Hollywood's studios turning out military training films and civilian morale films, and with Walt Disney throwing almost the full force of his unique organization into the production of special-

ized training and propaganda films, it is certain that this year and those to follow are seeing advances in the educational film and the technique of its employment which not even the most optimistic visual education enthusiasts could have foreseen. It has been stated that the Army's use of training films alone is advancing visual education twenty-five years at a single step: when the sum total of the nation's diversified uses of factual films is considered, this statement seems conservative indeed. END.

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IMPROVED DUPLEX 35MM PRINTER, with two Bell-Howell Cams and Shuttles. Perfect Registration for Color or Black and White, also process plates. Bell-Howell Standard Silenced Camera; Educational Blimp and Dolly; Sound and Silent Movielas. Equipment slightly used at a big saving. Hollywood Camera Exchange, 1600 Cahuenga Blvd., Hollywood.

DEVRY SINGLE SYSTEM SOUND RECORDING CAMERA, COMPLETE WITH 3 LENSES; VIEW FINDER; AMPLIFIER; NOISE REDUCTION; POWER SUPPLY; 3 WESTERN ELECTRIC MICROPHONES; FRICTION TRIPOD; 5 MAGAZINES; SUNSHADE MATTE-BOX; CABLES; etc. \$3,500.00 GAUMONT 35MM SOUND AND PICTURE PRINTER, \$295.00. DUPLEX 35MM STEP PRINTER, \$350.00. BERNDT AURICON 16MM RECORDING SYSTEM WITH NOISE REDUCTION. Like New, \$595.00. S.O.S. CINEMA SUPPLY CORPORATION, NEW YORK.

WE BUY, SELL AND RENT PROFESSIONAL AND 16mm EQUIPMENT, NEW AND USED. We ARE DISTRIBUTORS FOR ALL LEADING MANUFACTURERS. RUBY CAMERA EXCHANGE, 729 Seventh Ave., New York City. Established since 1910.

NEW FEARLESS interlock camera motor for N.C. Camera; W.E. interlock camera motor (door type); Western Electric interlock motor for Standard Mitchell Camera (door type).
CAMERA EQUIPMENT COMPANY
1600 BROADWAY, NEW YORK CITY
CABLE: CINEQUIP

FOR SALE: One model 500-D BM Recorder complete with Monitor Speaker, purchased in 1941, \$3200.00. One Model Y Presto Professional Recorder \$450.00. F. S. Yenowine, 660 Hulman Street, Terre Haute, Indiana.

WANTED

WE PAY CASH FOR EVERYTHING PHOTOGRAPHIC. Write us today. Hollywood Camera Exchange, 1600 Cahuenga Blvd., Hollywood.

WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES

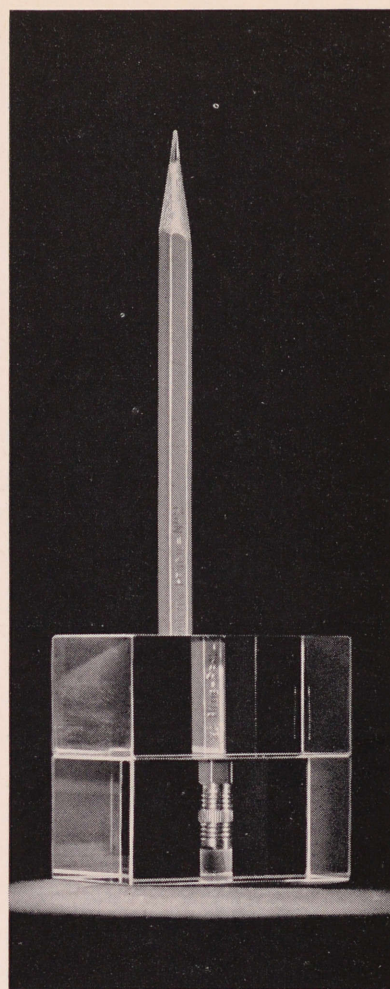
MITCHELL, B & H, EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM
EQUIPMENT

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EYEMO, SINGLE LENS OR TURRET MODELS, BELL & HOWELL STANDARD, MITCHELL CAMERAS, LENSES, MOTORS, ACCESSORIES. CAMERA MART, INC., 70 W. 45TH ST. N.Y.C.



AIRPLANES MADE TO FLY FASTER and at greater heights present new problems to lens designers. Kodak's new glass, with a much higher refractive index (light-bending ability) than previously available in optical glass of the same dispersion, is now being applied to aerial lenses and is partly responsible for the effectiveness of our aerial photography. The new lens has twice the speed of the fastest lens previously used by our Army Air Force.



POSITION OF PENCIL'S IMAGE shows that Kodak's new glass (below) has greater light-bending power than old-type optical glass (above). Both have the same dispersion.

Kodak's aerial lenses, made with new rare-element glass, —“first basic discovery in 55 years”

SAND has always been a basic ingredient of optical glass. Now, for the first time, Kodak is making optical glass of “rare elements”—tantalum, tungsten, and lanthanum. No sand—to the optical scientist, it's “almost as revolutionary as discovering how to make steel without iron.”

There would be no point in it, of course, without the result which is obtained: *A lens which gives greater speed without loss of definition and covering power.*

The U. S. flyer equipped with an aerial lens made by Kodak, incorporating the new glass, can carry out his mission from a safer height—and, as a consequence, with a much

better chance of bringing back his pictures.

Faster, Farther, Clearer

Before this, the fastest lens used by U. S. Army flyers was $f/3.5$. Now our night flyers are being supplied, as rapidly as possible, with an $f/2.5$ lens. This is twice as fast, and gets pictures of better quality—with the same size flash bomb—at a greater height.

The greater light-bending ability of the new glass means that the lens can have less curvature—and this also means much better definition at the edges of the picture.

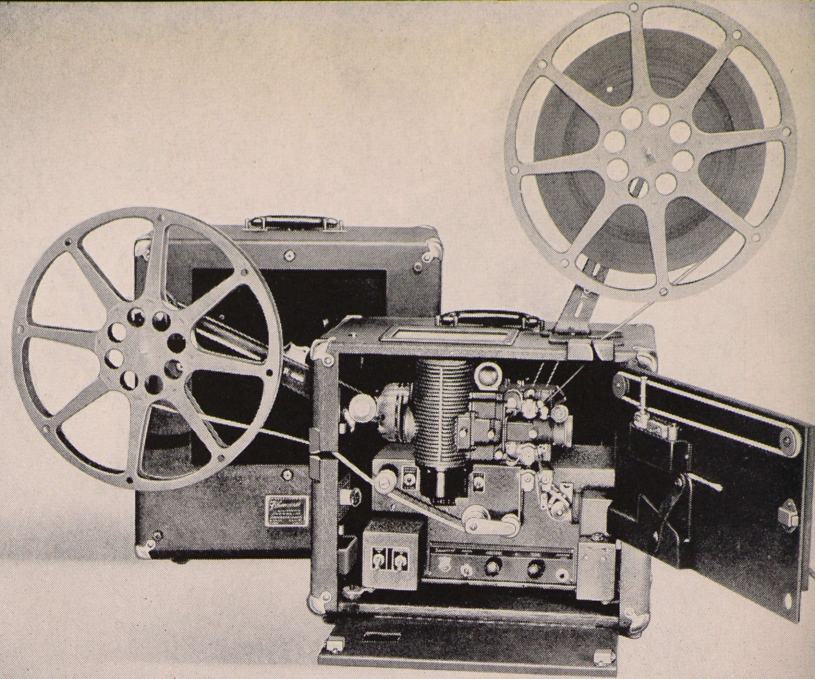
Prior to Kodak's new glass, in 1941, the last basic discovery leading to radical improvement in optical glass was in 1886.

After the original work on the new glass, done by Kodak scientists in collaboration with Dr. G. W. Morey, of the U. S. Geophysical Laboratory, four additional years were spent in perfecting its manufacture—and computing the new formulas necessary for the grinding of lenses.

Fortunately the work was done in time, and the new optical elements are now in many cameras in the service of democracy . . . Eastman Kodak Company, Rochester, N. Y.

Serving human progress through Photography

THE NEW 16mm. *Filmosound*



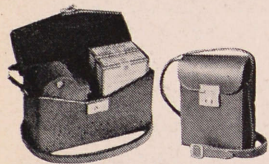
—every inch a Bell & Howell Projector in quality and performance in spite of restricted use of critical materials

The new Filmosound "V" Projector is in every way typical of the quality and precision you naturally associate with all Bell & Howell products. It is sturdy . . . precision built . . . easy to operate . . . every feature essential to superb projection and film protection . . . and incorporates these features in spite of the fact that critical materials are restricted in its manufacture.

While the new Filmosound "V" Model is available only to our armed forces, it is indicative of the better "things to come" from Bell & Howell craftsmen when peace is restored.

Filmo Accessories

That Every Home Movie Enthusiast Should Own



genuine Filmo case that fills the bill perfectly. See your camera dealer. Prices range upward from \$3.20.

CHARACTER TITLER—for producing titles of any style, including fingers writing, animated titles, maps, graphs, diagrams; also cartoon movies, miniature sets, small subjects (flowers, insects, etc.) and still pictures. The outfit includes an adjustable title card holder and reflector clamped to each spacer rod. Models for use with 16mm. and 8mm. Filmo Cameras.

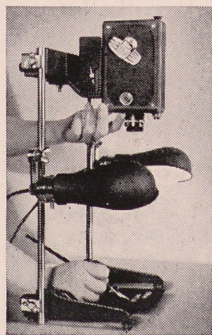
For these—and other available Filmo Accessories, see your motion picture camera dealer. In many cases, accessories are still available from his stocks, even though they may be out of production for the duration.



Make "Letter Perfect" Titles with FILMO TITLE BOARD

Filmo Title Boards are neatly framed black fabric-covered backgrounds closely grooved to permit easy placing of the letters. The letters come in a special compartment box, making the entire outfit complete and professional.

Price—without letters.....\$8.25
Standard set of letters.....8.00

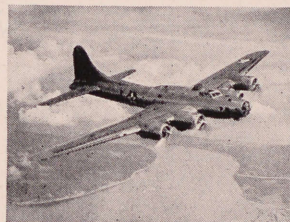


ENLIST YOUR PROJECTOR...

Show These Newest Films for Victory!

This war is every American's fight. And the harder everyone fights on every front—the sooner the hour of Victory. You and your projector are in a position to render invaluable service, because with your projector and the B&H Filmosound Library you can help bring the *real meaning* of the war right home to hundreds of your fellow men.

Briefly described below are a few of the latest Filmosound Library releases that will enable you to do this important job. There are thousands of other films available to you through the Filmosound Library—purchase or rental—covering every need and every subject. See your dealer for timely suggestions on how you can use your projector to hasten Victory.



AIR FORCE and NAVY FILMS—for preflight and preinduction high school training.



NORTH AFRICA—two new sound films by Count Byron de Prorok. Select films on every war theater.



GOOFER TROUBLE—a typical British Civilian Defense film. More than 200 British films available.



OUR TOWN—Thornton Wilder's Pulitzer Prize play—a "Ten Best" selection; cut for school use.



CIVILIAN DEFENSE—many films to meet vitally important problems of mass education.



"E" FOR EXCELLENCE—shows how the Army-Navy Award for extraordinary performance is won and presented; one-reel; sound. Service charge 50c.

Bell & Howell Company, Chicago; New York; Hollywood; Washington, D. C.; London. Est. 1907



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Without obligation, please send me, free:

- () Catalog of British Civilian Defense Films;
- () List of Available Accessories;
- () Detailed information on new Filmosound Model V;
- () Details on new films from Filmosound Library listed below.

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